13TVR60-S1
JULY 96

**THOMSON CONSUMER ELECTRONICS**

# TV/VCR Combination Supplemental Service Data

**13TVR60**

Additional Models:

**13TVR70/19TVR60/T13060**
**T13065/T13070/T19060**

RCA PROSCAN GE

**Technical Publications**
P.O. Box 1976 / Indianapolis, Indiana 46206

**Purpose of This Supplement:** This is a Supplement to the 13TVR60 Basic Service Data. Included are updated schematics documenting recent production changes. The Replacement Parts List has been updated to include new models.

## SERVICE DATA INDEX


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| Deflection Schematic | 2-2 |
| Power Supply Schematic | 2-1 |
| Replacement Parts List | 1-2 |
| Video Schematic | 2-3 |


## SAFETY NOTICE

### USE ISOLATION TRANSFORMER WHEN SERVICING

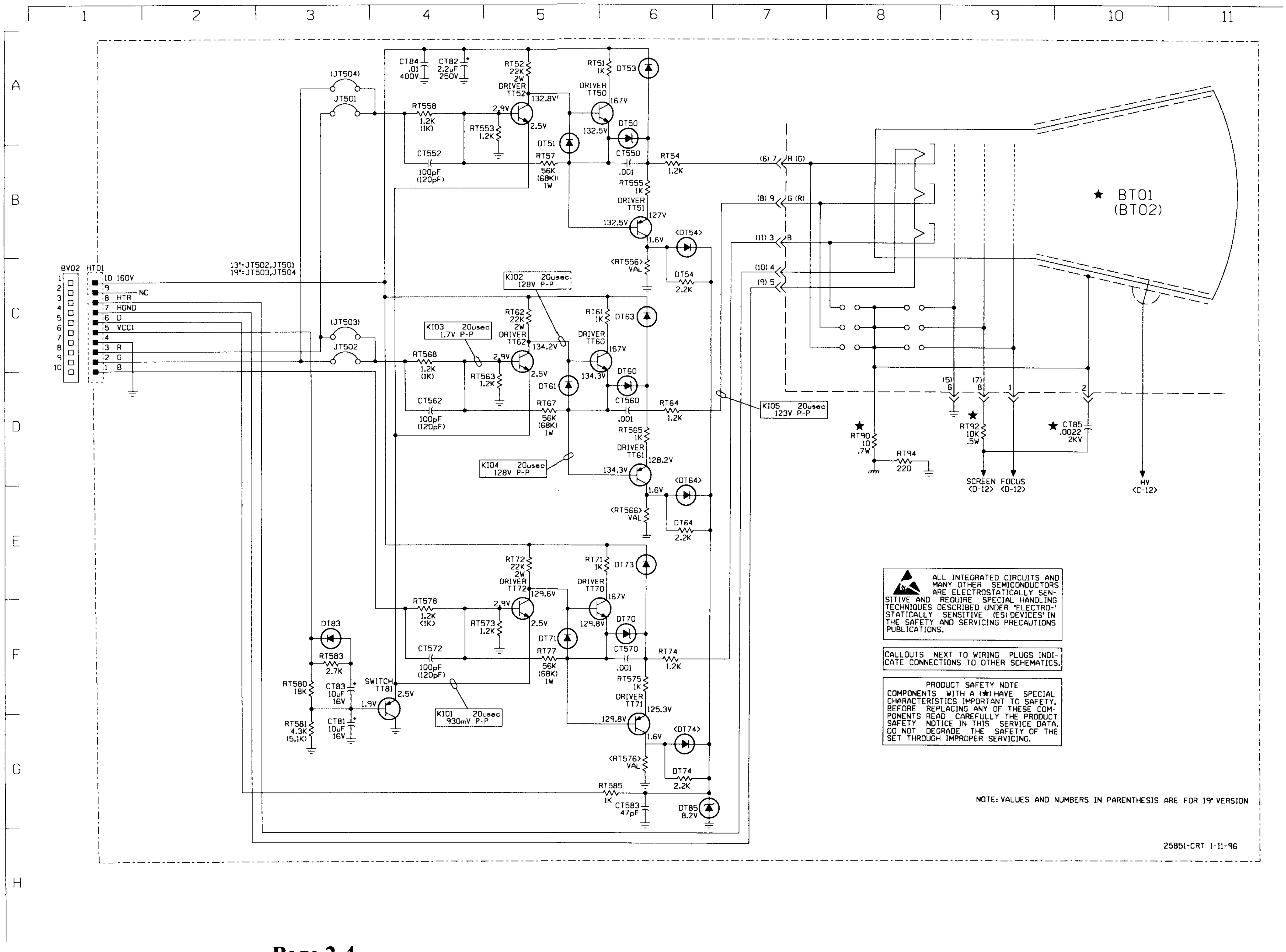
Components having special safety characteristics are identified by stars ★ on schematics and on the parts list in this Service Data and its bulletins. Before servicing this instrument, it is important that the service technician read and follow the "Safety Precautions" and "Product Safety Notices" in the Basic Service Data.


First Edition - First Printing

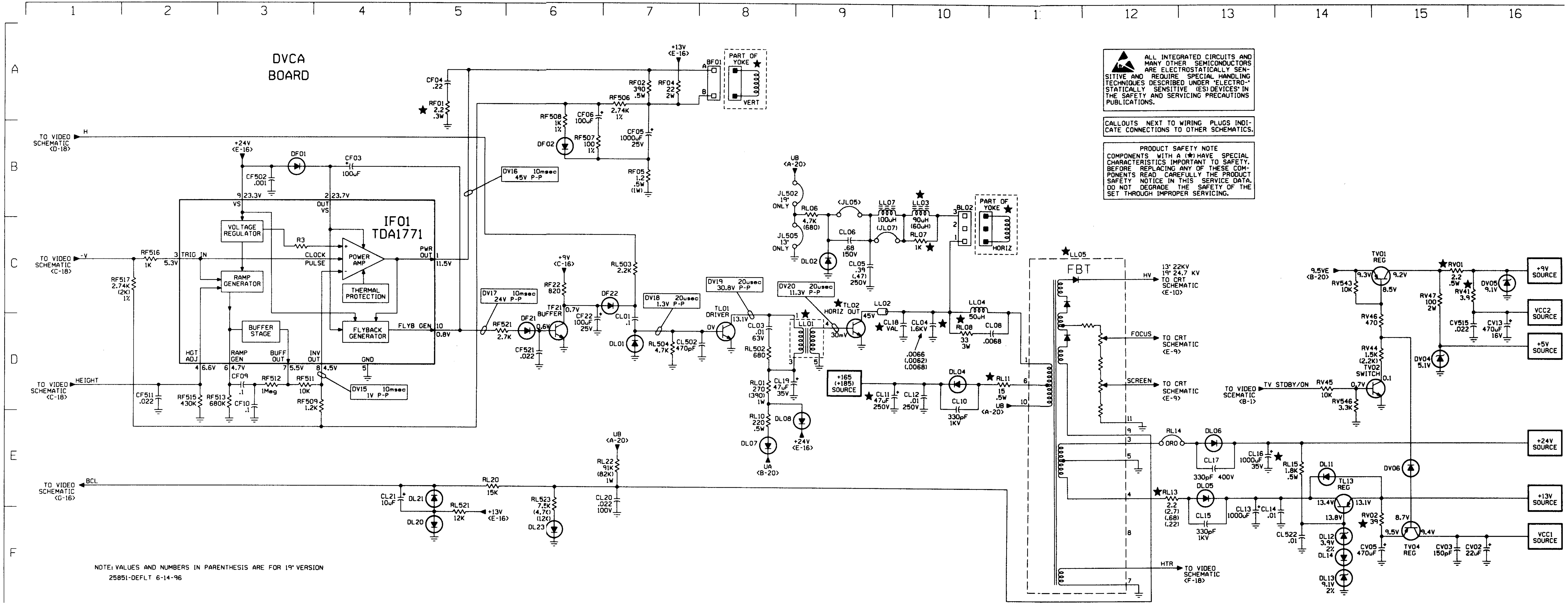


AP71735SW

# CRT DRIVER SCHEMATIC



# DEFLECTION SCHEMATIC



## ELECTRICAL ADJUSTMENTS (Continued)

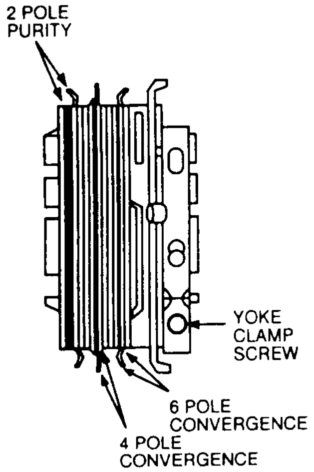



*Fig. 6 - Purity/Convergence Magnets*

9. Converge the red and blue vertical lines to the green vertical line at the center of the screen:
   a. Carefully rotate both tabs of the 4-pole ring magnet (simultaneously in opposite directions) from the 12 o'clock position to converge the red vertical line with the blue vertical line.
   b. Carefully rotate both tabs of the 6-pole ring magnet (simultaneously in opposite directions) from the 12 o'clock position to converge the magenta (red/blue converged) vertical line with the green vertical line.
10. Converge the red and blue horizontal lines to the green horizontal line at the center of the screen:
    a. Carefully rotate both tabs of the 4-pole ring magnet (simultaneously in the same direction to maintain the spacing between the tabs) from the 12 o'clock position to converge the red horizontal line with the blue horizontal line.
    b. Carefully rotate both tabs of the 6-pole ring magnet (simultaneously in the same direction to maintain the spacing between the tabs) from the 12 o'clock position to converge the magenta (red/blue converged) horizontal line with the green horizontal line.
11. Secure the 4-pole and 6-pole magnets by tightening the beam bender locking ring.
12. While viewing the 6 o'clock and 12 o'clock areas on the screen, rock the front of the yoke vertically (up/down) to converge the red and blue vertical lines (see Fig. 7). Temporarily place a wedge at the 12 o'clock position to hold the vertical position of the yoke.

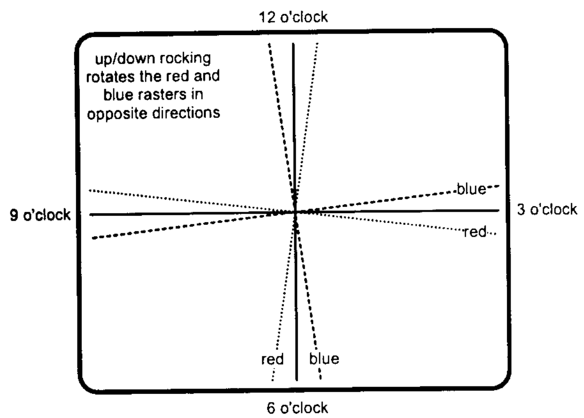



*Fig. 7 - Yoke Tilt Adjustment*

13. Check the 3 o'clock and 9 o'clock areas to confirm that the red and blue horizontal lines are converged. If the lines are not converged, slightly offset the vertical tilt of the yoke to balance the misconvergence of the horizontal lines at 3 o'clock and 9 o'clock with the misconvergence of the vertical lines at 6 o'clock and 12 o'clock.
14. Place a 1.5 inch piece of glass tape over the foot of the 12 o'clock wedge. *Do not allow the wedge or tape to contact the coated area around the anode lead.*
15. While viewing the 6 o'clock and 12 o'clock areas on the screen, rock the front of the yoke horizontally (left/right) to converge the red and blue horizontal lines (see Fig. 8). Temporarily place wedges at the 4 o'clock and 8 o'clock positions to hold the horizontal position of the yoke.

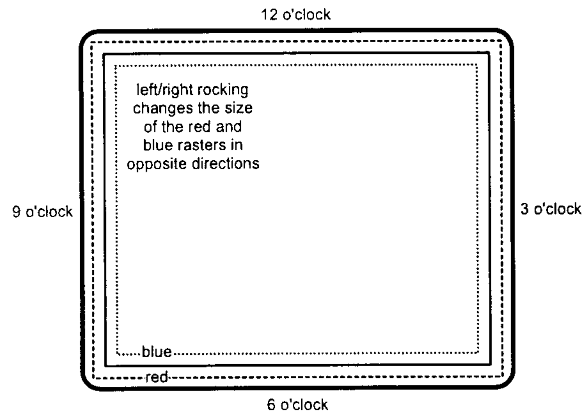



*Fig. 8 - Yoke Tilt Adjustment*

16. Check the 3 o'clock and 9 o'clock areas to confirm that the red and blue vertical lines are converged. If the lines are not converged, slightly offset the horizontal tilt of the yoke to balance the misconvergence of the vertical lines at 3 o'clock and 9 o'clock with the misconvergence of the horizontal lines at 6 o'clock and 12 o'clock.
17. Place a 1.5 inch piece of glass tape over the foot of the 4 o'clock and 8 o'clock wedges.

**Setup Mode/EEPROM Verification**

This procedure allows setup and/or verification of the data stored in the EEPROM. If the data stored in the EEPROM is incorrect, some functions/features may not be available.

1. Make sure that there is not a cassette tape in the instrument.
2. Remove the AC power from the VCR.
3. Press and hold the *Channel Up* and *Down* buttons simultaneously.
4. While still holding the *Channel Up* and *Down* buttons as described in step 3, apply AC power to the VCR.
5. A few seconds after the "Service Setup OSD" appears, release the *Channel Up* and *Down* buttons.





## ELECTRICAL ADJUSTMENTS (Continued)

VCR Setup

Type in the set
dependent number

2 0 0 1 0 2 0 1 1 7 3 0 0 0 0 0 0 0

[CH DOWN] TV SETUP
[STOP] STORE VCR DATA
[MENU] EXIT WITHOUT SAVE

*Fig. - 9 VCR Setup Menu*

6. Verify that the EEPROM data reads as follows:

| | |
|---|---|
| **GE 2HD** | **2 0 0 1 0 2 0 1 1 7 3 0 0 0 0 0 0 0** |
| **GE 4HD** | **2 0 0 1 0 2 0 1 1 7 7 0 0 0 0 0 0 0** |
| **RCA 2 HD** | **2 0 0 1 1 2 0 0 1 7 3 0 0 0 0 0 0 0** |
| **RCA 4 HD** | **2 0 0 1 1 2 0 1 1 7 7 0 0 0 0 0 0 0** |

7. If the EEPROM data is correct, press the *Program* button on the remote control hand unit to display the Main Menu or press the *Channel Down* button to select the first TV Setup menu. Use the *Channel Up/Down* buttons on the remote to select the different menu adjustments. Use the *Volume Up/Down* buttons to adjust the value of a selected adjustment.
8. If the EEPROM data is incorrect, use the *Number Keys* on the remote control hand unit to enter the correct EEPROM data.
9. To save the EEPROM data, press the *Stop* button on the remote control hand unit. The VCR microprocessor will store the data in the EEPROM and then power off the VCR.

TV Setup

| | | |
|---|---|---|
| >Black Stretch | | Yes |
| RDC | 00-3F | 13 |
| GDC | 00-3F | 25 |

Function Range Value

*Fig. - 10 TV Setup Menu 1*

TV Setup

| | | |
|---|---|---|
| > R'DRV | 00-3F | 10 |
| G'DRV | 00-3F | 0C |

*Fig. - 11 TV Setup Menu 2*

TV Setup

| | | |
|---|---|---|
| > B'DRV | 00-3F | 0E |
| PEAK | (-/+) | |

*Fig. - 12 TV Setup Menu 3*

TV Setup

[ STOP ] STORE TV DATA

| | | |
|---|---|---|
| >H-PHA | 00-3F | 19 |
| V-POS | 00-3F | 06 |
| V-AMP | 00-3F | 14 |

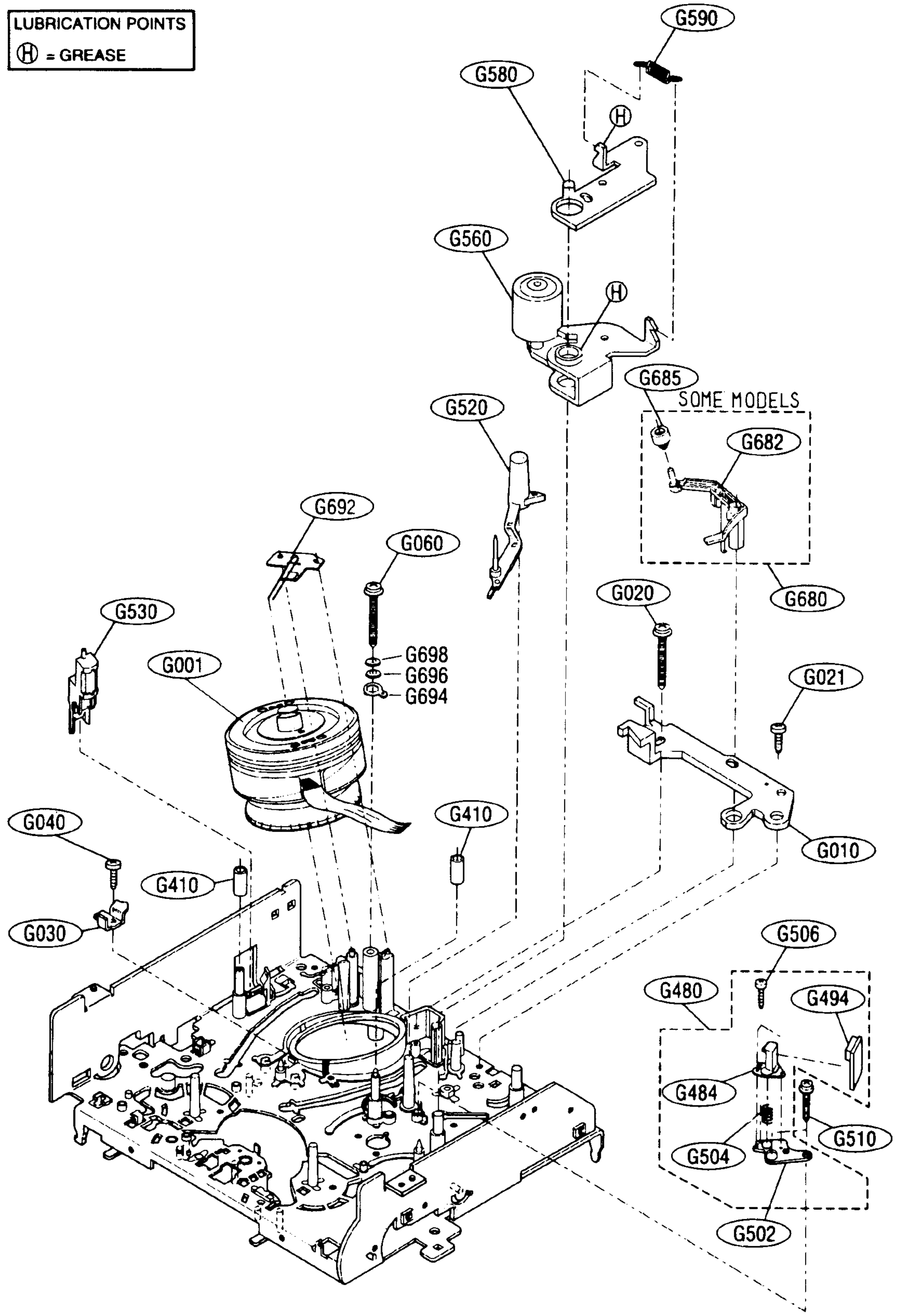
*Fig. - 13 TV Setup Menu 4*

10. Confirm all features/functions after completing the procedure.

## TRANSPORT MECHANISM EXPLODED VIEW
(1 of 2)

### MECHANICAL PARTS (1)

LUBRICATION POINTS
(H) = GREASE




SOME PARTS WITH ITEM NUMBERS ON EXPLODED VIEWS MAY NOT BE AVAILABLE SEPARATELY, OR MAY BE AVAILABLE ONLY AS PART OF AN ASSEMBLY.

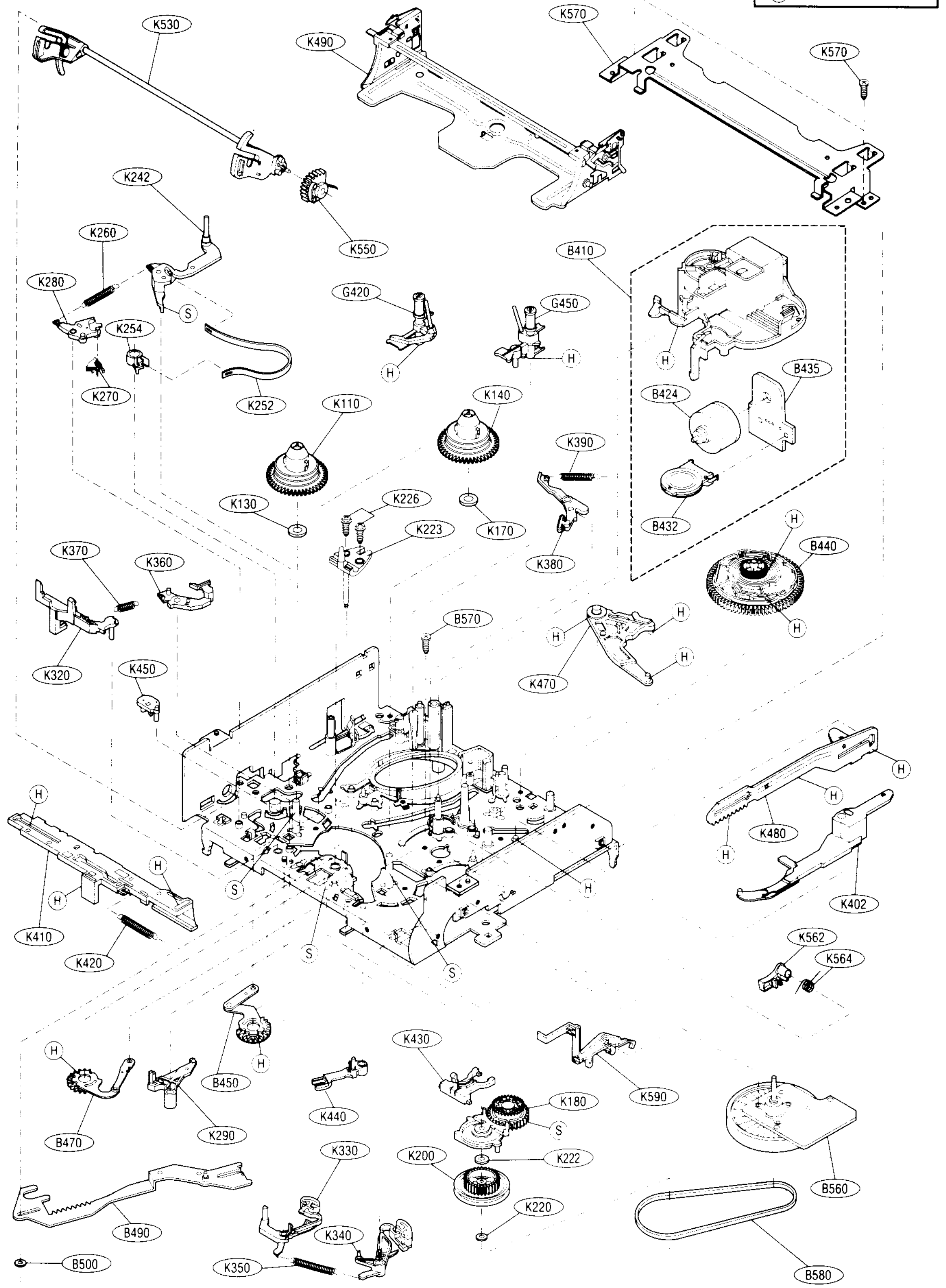




## TRANSPORT MECHANISM EXPLODED VIEW
(2 of 2)

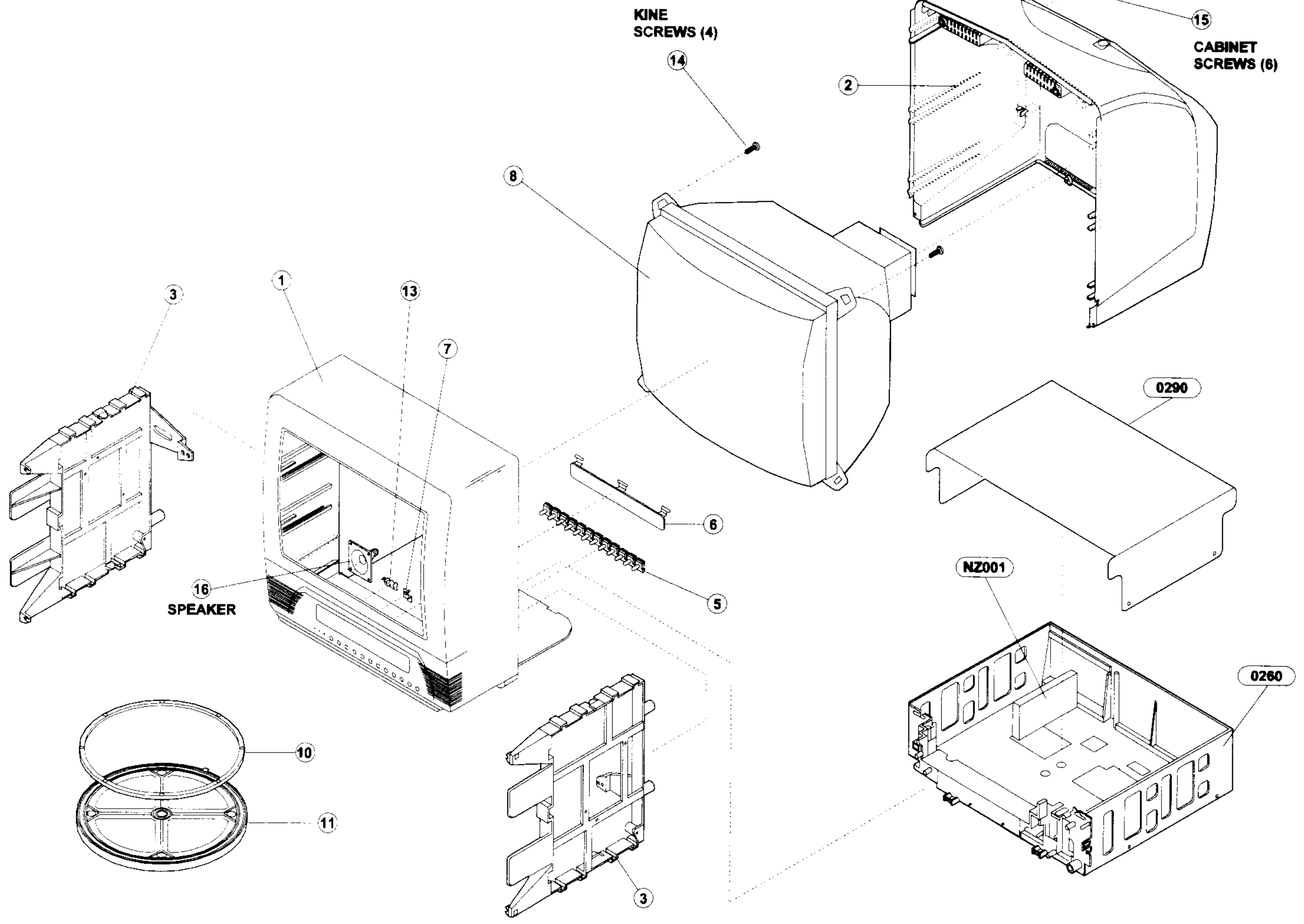
### MECHANICAL PARTS (2)

LUBRICATION POINTS
(H) = GREASE
(S) = OIL



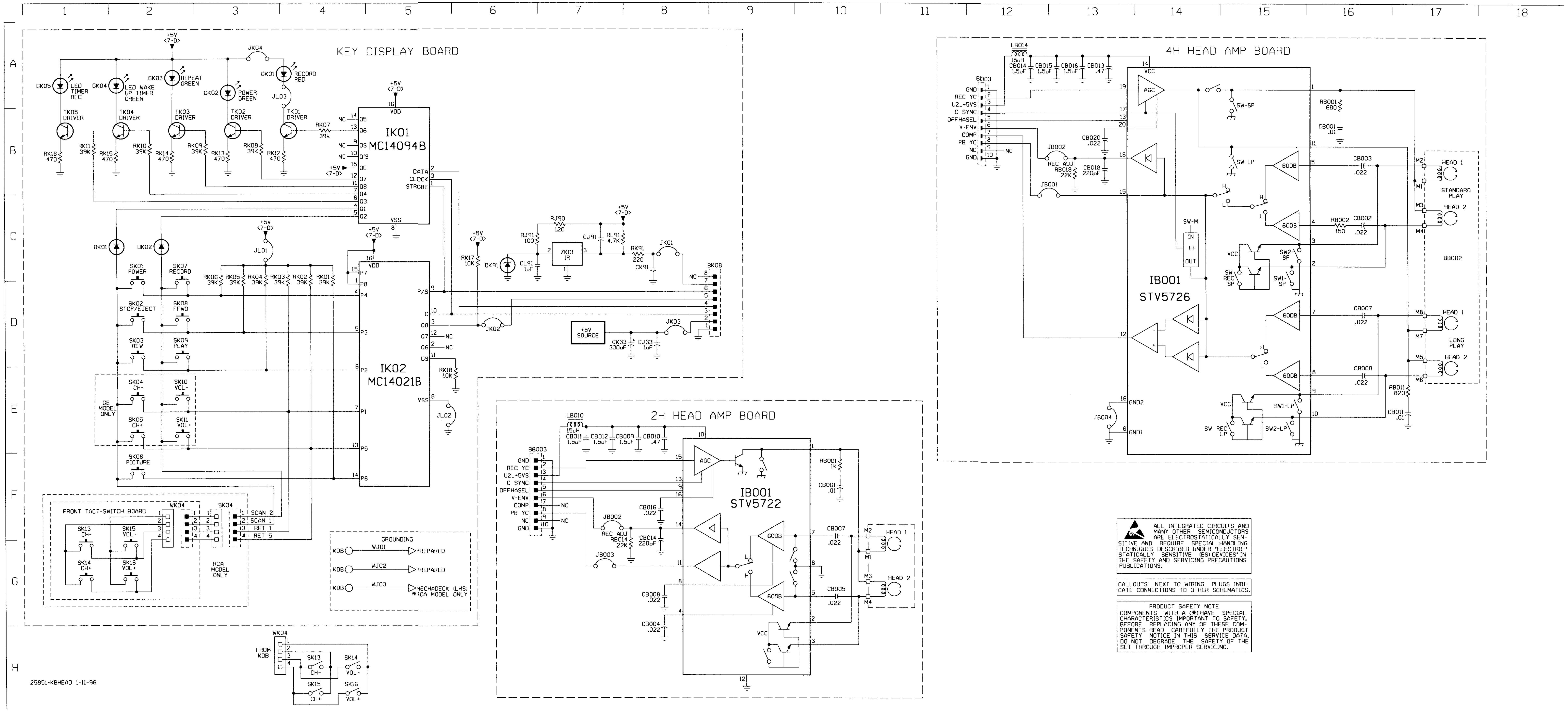



## INSTRUMENT ASSEMBLY EXPLODED VIEW




1-P4

1-P8



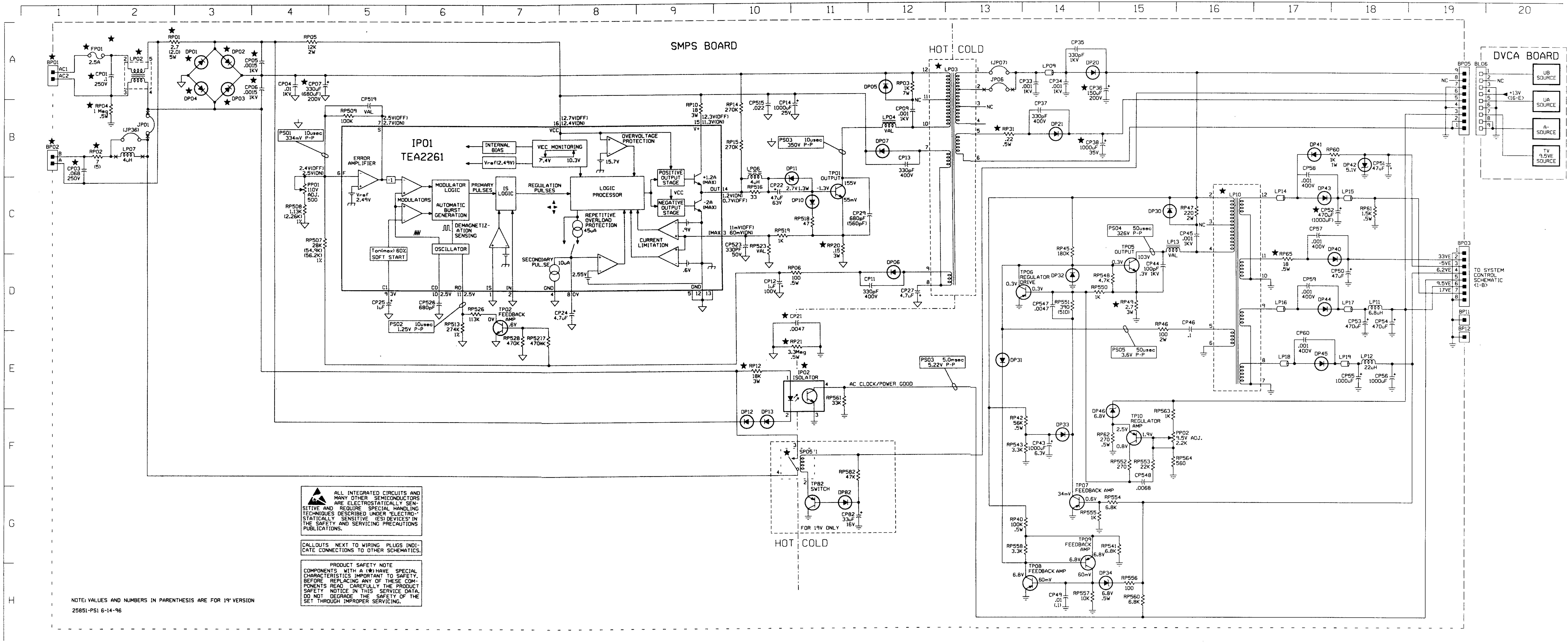

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTRO-STATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATIONS.

CALLOUTS NEXT TO WIRING PLUGS INDICATE CONNECTIONS TO OTHER SCHEMATICS.

PRODUCT SAFETY NOTE

COMPONENTS WITH A (★) HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

# POWER SUPPLY SCHEMATIC



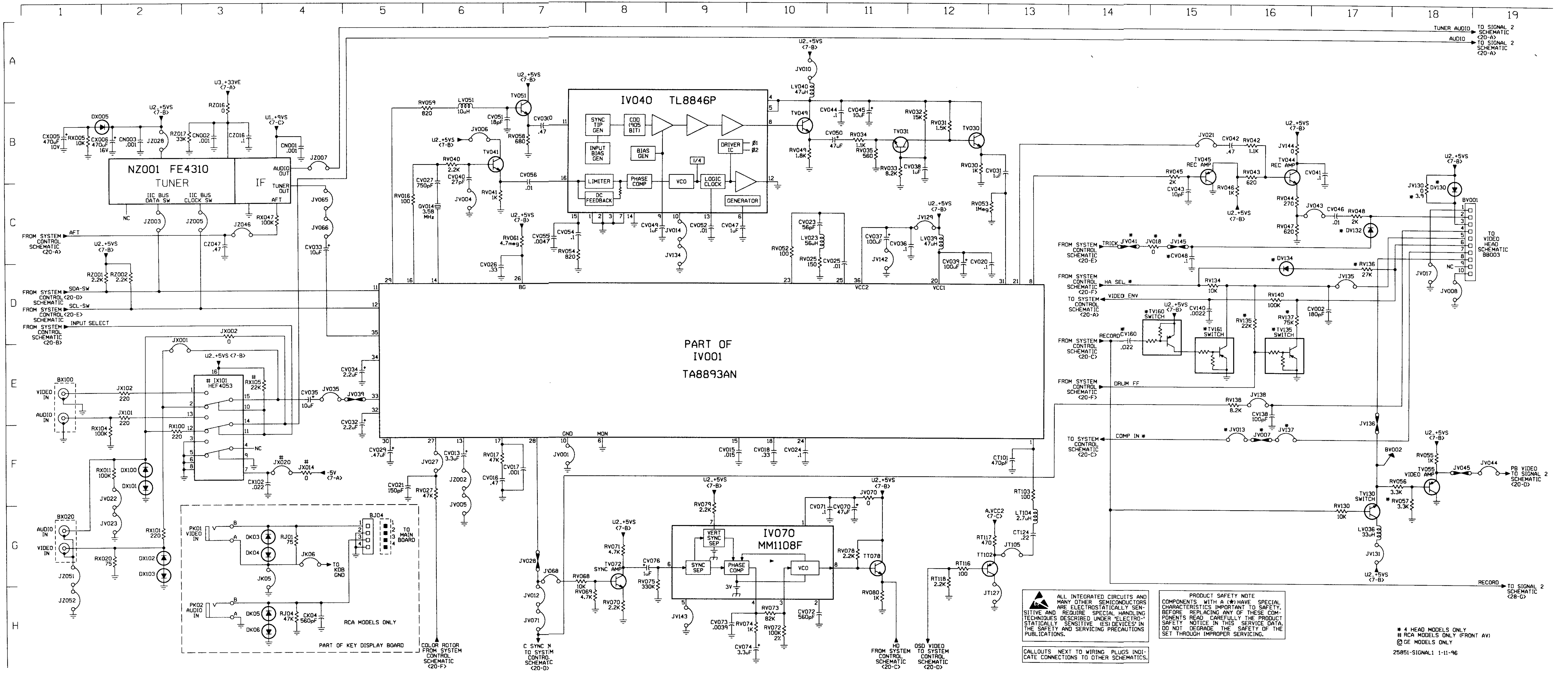

ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER 'ELECTROSTATICALLY SENSITIVE (ES) DEVICES' IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATIONS.

CALLOUTS NEXT TO WIRING PLUGS INDICATE CONNECTIONS TO OTHER SCHEMATICS.

PRODUCT SAFETY NOTE
COMPONENTS WITH A (★) HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

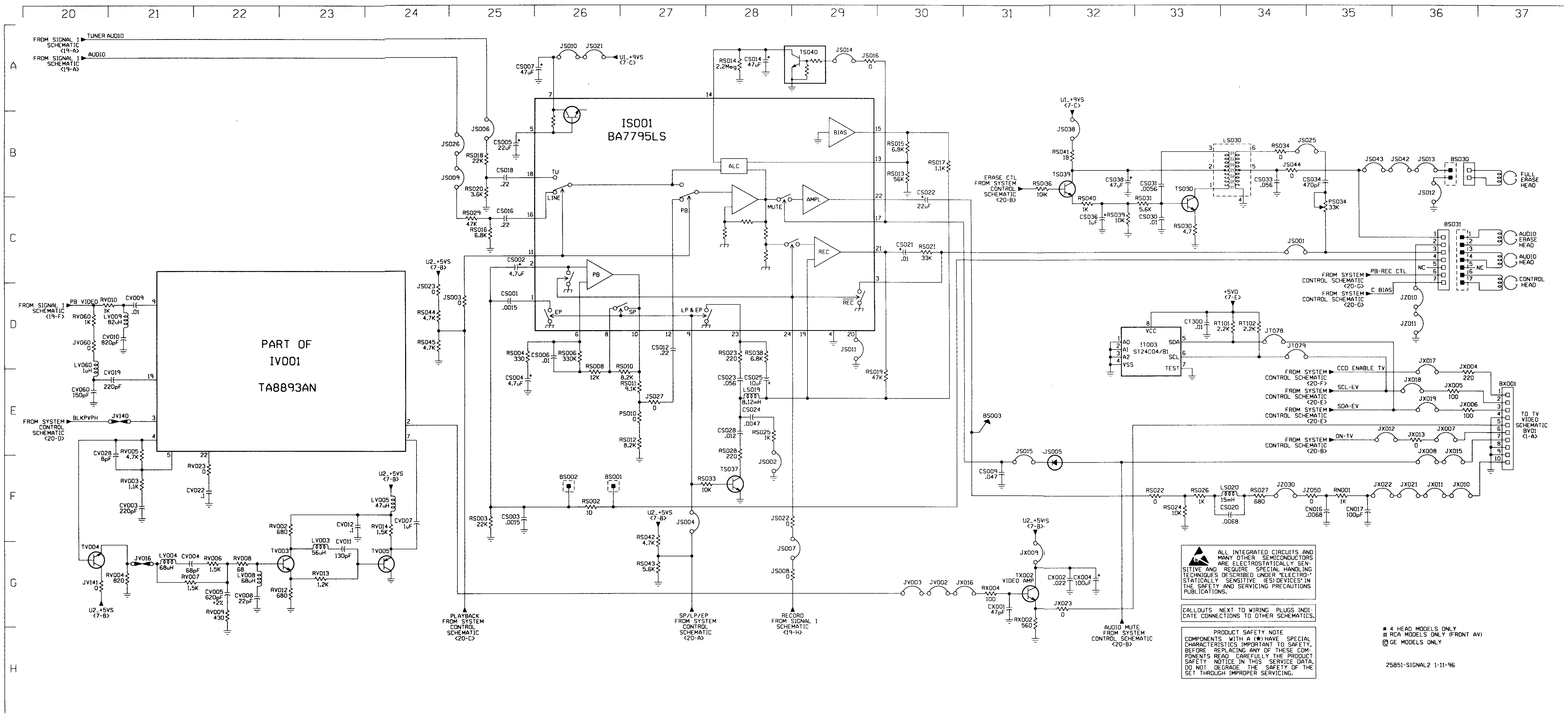
NOTE: VALUES AND NUMBERS IN PARENTHESIS ARE FOR 19" VERSION

25851-PS1 6-14-96



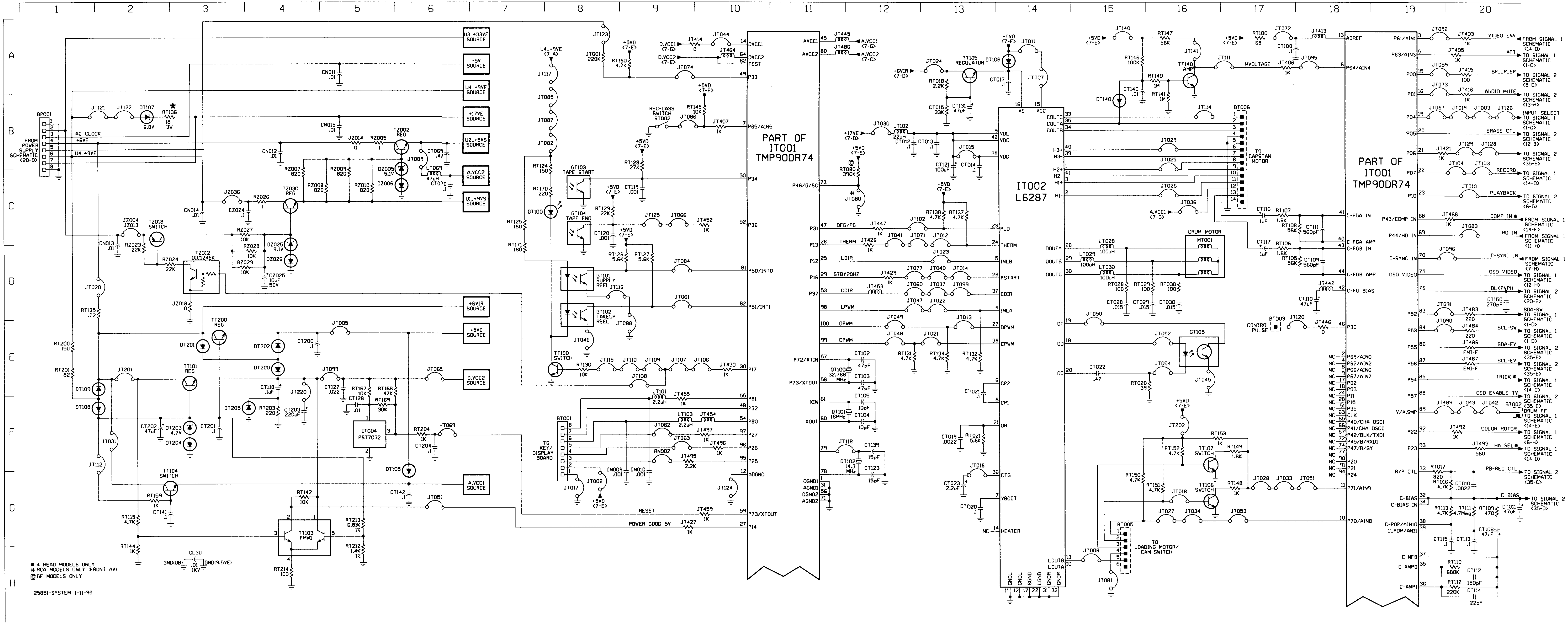
NZ001 FE4310
TUNER
IF
IV040 TL8846P
PART OF
IV001
TA8893AN
IV070
MM1108F
IX101
HEF4053
PART OF KEY DISPLAY BOARD
RCA MODELS ONLY
TO MAIN BOARD
TO VIDEO HEAD SCHEMATIC BB003
TO SIGNAL 2 SCHEMATIC <20-A>
PB VIDEO TO SIGNAL 2 SCHEMATIC <20-D>
RECORD TO SIGNAL 2 SCHEMATIC <28-G>
ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATIONS.
CALLOUTS NEXT TO WIRING PLUGS INDICATE CONNECTIONS TO OTHER SCHEMATICS.
PRODUCT SAFETY NOTE
COMPONENTS WITH A (*) HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DO NOT DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.
* 4 HEAD MODELS ONLY
# RCA MODELS ONLY (FRONT AV)
@ GE MODELS ONLY
25851-SIGNAL1 1-11-96

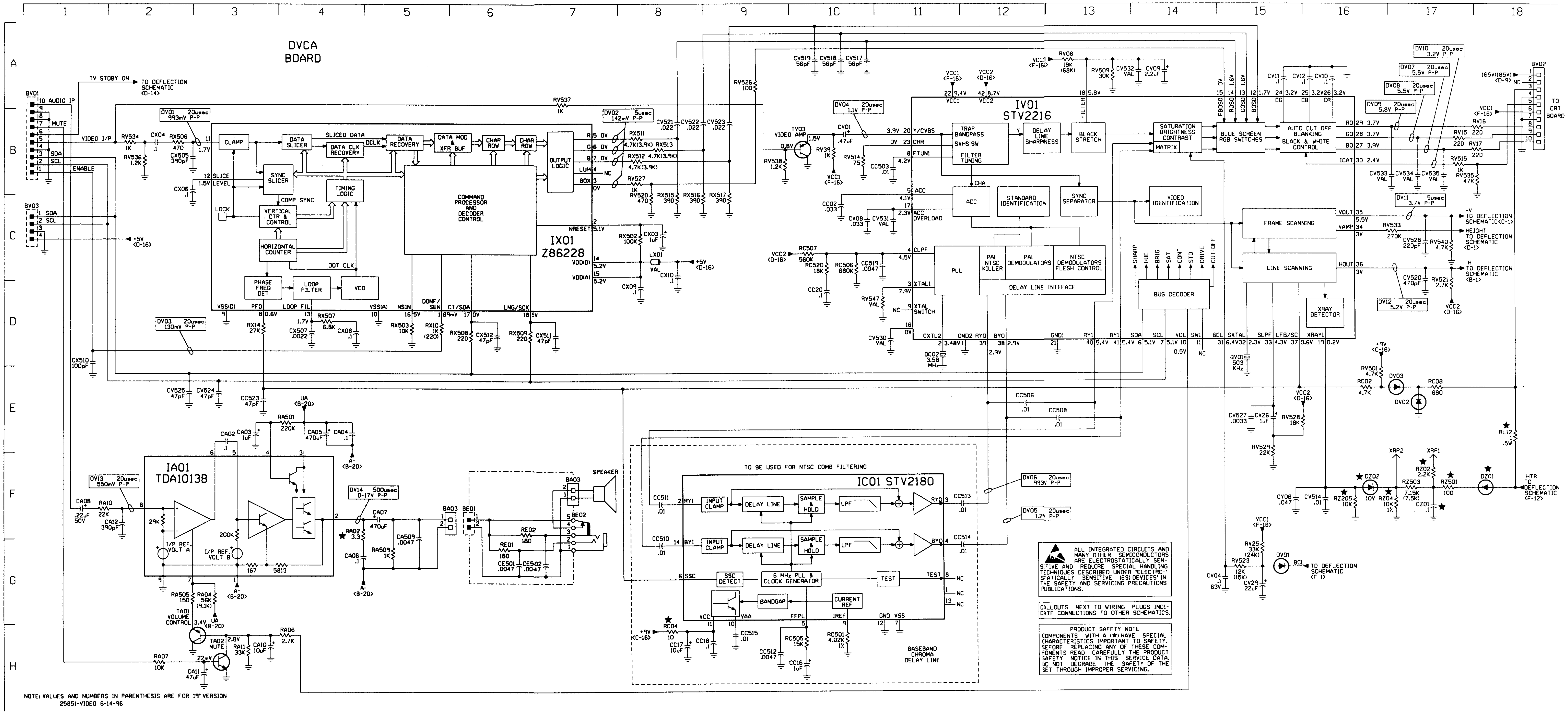
## SIGNAL 2 SCHEMATIC



2-O1 2-O2 2-O3 2-O4

# SYSTEM CONTROL SCHEMATIC




DVCA BOARD
IX01 Z86228
CLAMP
DATA SLICER
SLICED DATA
DATA CLK RECOVERY
DATA RECOVERY
DATA MOD & XFR BUF
CHAR ROW
OUTPUT LOGIC
SYNC SLICER
TIMING LOGIC
COMP SYNC
VERTICAL CTR & CONTROL
HORIZONTAL COUNTER
COMMAND PROCESSOR AND DECODER CONTROL
PHASE FREQ DET
LOOP FILTER
VCO
DOT CLK
IV01 STV2216
TRAP BANDPASS
SVHS SW
FILTER TUNING
DELAY LINE SHARPNESS
BLACK STRETCH
SATURATION BRIGHTNESS CONTRAST
MATRIX
BLUE SCREEN RGB SWITCHES
AUTO CUT OFF BLANKING
BLACK & WHITE CONTROL
ACC
STANDARD IDENTIFICATION
SYNC SEPARATOR
VIDEO IDENTIFICATION
PLL
PAL NTSC KILLER
PAL DEMODULATORS
NTSC DEMODULATORS FLESH CONTROL
DELAY LINE INTEFACE
BUS DECODER
FRAME SCANNING
LINE SCANNING
XRAY DETECTOR
TO CRT BOARD
TO DEFLECTION SCHEMATIC
IA01 TDA1013B
I/P REF. VOLT A
I/P REF. VOLT B
SPEAKER
TO BE USED FOR NTSC COMB FILTERING
IC01 STV2180
INPUT CLAMP
DELAY LINE
SAMPLE & HOLD
LPF
SSC DETECT
6 MHz PLL & CLOCK GENERATOR
TEST
BANDGAP
CURRENT REF
BASEBAND CHROMA DELAY LINE
ALL INTEGRATED CIRCUITS AND MANY OTHER SEMICONDUCTORS ARE ELECTROSTATICALLY SENSITIVE AND REQUIRE SPECIAL HANDLING TECHNIQUES DESCRIBED UNDER "ELECTRO-STATICALLY SENSITIVE (ES) DEVICES" IN THE SAFETY AND SERVICING PRECAUTIONS PUBLICATIONS.
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NOTE: VALUES AND NUMBERS IN PARENTHESIS ARE FOR 19" VERSION
25851-VIDEO 6-14-96

# REPLACEMENT PARTS

**BEFORE REPLACING PARTS, READ THE FOLLOWING:**

**Approved Substitute Stock Numbers**—Before ordering stock numbers in the parts list, look for an approved substitute stock number in the current Price Schedule. This will minimize your service time and avoid ordering parts you already have in stock.

**PRODUCT SAFETY NOTE**—Components marked with a (*) have special characteristics important to safety. Before replacing any of these components, read carefully the **PRODUCT SAFETY NOTICE** in the basic service data. Do not degrade the safety of the set through improper servicing. Although assemblies as a whole may not be marked with a (*), replacement of assemblies with other assemblies not approved may result in a safety hazard.

**Warranty Status of Assemblies and Parts**—All assemblies and components shown in this parts list are eligible for warranty exchange or replacement except those with a dot (•) shown to the left of the Description. Assemblies and components with a dot (•) to the left of the Description are NOT eligible for warranty exchange or replacement.

Warranty replacement of cabinet parts requires the approval of a Thomson Consumer Electronics Field Service Manager.

Warranty Status and Specifications of assemblies and components are subject to change without notice. Consult the TCE Parts Pricing Microfiche for the latest warranty status information.

**@NOTE:** When ordering components that are listed more than once in this parts list, always adhere to the serial number application guidelines given in the description column. If a serial number application guideline is not given, always select the component with a value, rating, other specification or identification marking(s) that match those of the corresponding component in the instrument you are servicing.

## SUPPLEMENT 1

| MODEL | TV CHASSIS | VCR CHASSIS |
|---|---|---|
| 13TVR60F01 | TVR1 | VCR2A |
| 13TVR60C01 | TVR1 | VCR2A |
| 13TVR70F01 | TVR1 | VCR2A |
| 19TVR60C01 | TVR2 | VCR2A |
| 19TVR60F01 | TVR2 | VCR2A |
| T13060GYF01 | TVR1 | VCR2B |
| T13065BCF01 | TVR1 | VCR2B |
| T13070WHF01 | TVR1 | VCR2B |
| T19060GYF01 | TVR2 | VCR2B |

## TV SECTION

### CHASSIS TVR1/TVR2 ELECTRICAL ASSEMBLIES

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| | | | CIRCUIT, KINE DRIVE (SEE KINE DRIVE CBA) |
| | | | CIRCUIT, DVCA (ONLY COMPONENT PARTS AVAILABLE) |
| | | | CIRCUIT, SMPS (ONLY COMPONENT PARTS AVAILABLE) |
| | | | CIRCUIT, TUNER SEE NZ001 (VCR SECTION) |
| | | | CIRCUIT, KEYBD/DISPLAY (SEE VCR SECTION) |

### ELECTRICAL COMPONENTS

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| BA03 | 232317 | 11038995 | CONNECTOR 2 PIN HEADPHONE CIRCUIT |
| BE01 | 232328 | 20425540 | CIRCUIT HEADPHONE/SPKR |
| BE02 | 232318 | 40432230 | SOCKET HEADPHONE JACK |
| BE03 | 210618 | 40406081 | CONNECTOR 2 PIN SPEAKER |
| BL02 | 198542 | 70181000 | CONNECTOR 3 PIN HORIZ YOKE |
| BL06 | 232319 | 80448070 | CONNECTOR 9 PIN SMPS BOARD |
| BP01 | | | CABLE, AC CORD (SEE MECHANICAL PTS-VCR) |
| BP03 | 211594 | 67138110 | CONNECTOR 8 PIN VCR |
| BP05 | 232319 | 80448070 | CONNECTOR 9 PIN DVCA BOARD |
| BV01 | 211596 | 67138210 | CONNECTOR 10 PIN HD AMP |
| BV02 | 232320 | 10015460 | CONNECTOR 10 PIN CRT DRIVER |
| BV03 | 232321 | 80445660 | CONNECTOR 4 PIN |
| CA02 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CA03 | 194673 | 10120960 | CAP LYTC 1UF M 50V |
| CA04 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CA05 | 207855 | 13089330 | CAP LYTC 470UF M 25V |
| CA06 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CA07 | 207855 | 13089330 | CAP LYTC 470UF M 25V |
| CA08 | 224166 | 13074560 | CAP LYTC .22UF M 50V |
| CA10 | 194557 | 13082060 | CAP LYTC 10UF M 50V |
| CA11 | 193043 | 13070520 | CAP LYTC 47UF M 25V |
| CA12 | 232329 | 13069020 | CAP POLY 1000PF K 63V TVR1/TVR2 (SEE NOTE@) |
| CA12 | 235503 | 15001520 | CAP POLY 4700PF J 63V TVR1 (SEE NOTE@) |
| CA12 | 235512 | 15001390 | CAP POLY 3300PF J 63V TVR2 (SEE NOTE@) |
| CA509 | 230964 | 15005770 | CAPCC 4700PF M Y5R 16V |
| CC02 | 232344 | 13091070 | CAP POLY .33UF K 63V |
| CC20 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CC503 | 206194 | 15004870 | CAPCC .01UF M Y5S 16V |
| CC506 | 206194 | 15004870 | CAPCC .01UF M Y5S 16V |
| CC508 | 206194 | 15004870 | CAPCC .01UF M Y5S 16V |
| CC519 | 230964 | 15005770 | CAPCC 4700PF M Y5R 16V |
| CC523 | 232345 | 15005760 | CAPCC 47PF J SL 50V |
| CE501 | 230964 | 15005770 | CAPCC 4700PF M Y5R 16V (SEE NOTE @) |
| CE501 | 206194 | 15004870 | CAPCC .01UF M Y5S 16V (SEE NOTE @) |
| CE502 | 230964 | 15005770 | CAPCC 4700PF M Y5R 16V (SEE NOTE @) |
| CE502 | 206194 | 15004870 | CAPCC .01UF M Y5S 16V (SEE NOTE @) |
| CF03 | 232346 | 13070890 | CAP LYTC 100UF M 35V |
| CF04 | 190520 | 70427650 | CAP POLY .22UF K 63V |
| CF05 | 232348 | 10122860 | CAP LYTC 1000UF M 25V |
| CF06 | 220624 | 13039330 | CAP LYTC 100UF M 25V |
| CF09 | 200141 | 20467040 | CAP POLY (MF).1UF J 63V (SEE NOTE@) |
| CF09 | 232352 | 20564600 | CAP POLY .1UF J 63V (SEE NOTE@) |
| CF10 | 200141 | 20467040 | CAP POLY (MF).1UF J 63V (SEE NOTE@) |
| CF10 | 232352 | 20564600 | CAP POLY .1UF J 63V (SEE NOTE@) |
| CF22 | 220624 | 13039330 | CAP LYTC 100UF M 25V |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| CF502 | 230969 | 15005190 | CAPCC 1000PF K Y5P 50V |
| CF511 | 206196 | 15005390 | CAPCC .022UF Z Y5V 25V |
| CF521 | 206196 | 15005390 | CAPCC .022UF Z Y5V 25V |
| CL01 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CL03 | 198575 | 15001120 | CAP POLY .01UF M 63V (SEE NOTE @) |
| CL03 | 198586 | 13068460 | CAP POLY 6800PF K 63V (SEE NOTE @) |
| CL04 | 232534 | 11007716 | * CAP POLY 6200PF E 1.6KV (SEE NOTE @) |
| CL04 | 198562 | 80304700 | * CAP POLY 6600PF HP 1.6KV (SEE NOTE @) TVR1 |
| CL04 | 235467 | 20079340 | * CAP POLY 6800PF HP 1.6KV TVR2 |
| CL05 | 232358 | 20053100 | CAP POLY .39UF J 250V TVR1 |
| CL05 | 235469 | 43401600 | CAP POLY .47UF J 250V TVR2 |
| CL06 | 232361 | 13076980 | CAP POLY .68UF M 160V |
| CL08 | 232362 | 20467090 | CAP POLY 6800PF K 100V (SEE NOTE @) |
| CL08 | 225439 | 15001610 | CAP POLY 6800PF K 400V (SEE NOTE @) |
| CL10 | 230972 | 14035840 | CAPCD 330PF M Y5U 1KV |
| CL11 | 232363 | 13075220 | * CAP LYTC 47UF FS 250V |
| CL12 | 225628 | 20298330 | CAPCD .01UF M 250V |
| CL13 | 230957 | 13039530 | CAP LYTC 1000UF M 16V |
| CL14 | 198575 | 15001120 | CAP POLY .01UF M 63V |
| CL15 | 230972 | 14035840 | CAPCD 330PF M Y5U 1KV |
| CL16 | 230958 | 13039590 | * CAP LYTC 1000UF M 35V |
| CL17 | 230966 | 14002220 | CAPCD 330PF M Y5R 400V |
| CL19 | 232364 | 13040240 | CAP LYTC 47UF M 35V |
| CL20 | 232365 | 70427760 | CAP POLY .022UF K 100V |
| CL21 | 194557 | 13082060 | CAP LYTC 10UF M 50V |
| CL30 | 232366 | 14001660 | CAPCD .01UF FS Y5U 1KV |
| CL502 | 230968 | 15005750 | CAPCC 470PF K Y5P 50V |
| CL522 | 206194 | 15004870 | CAPCC .01UF M Y5S 16V |
| CP01 | 220625 | 20157420 | * CAP PMF .1UF M 250V |
| CP03 | 220627 | 13028880 | * CAP POLY .068UF M 250V |
| CP04 | 232366 | 14001660 | * CAPCD .01UF FS Y5U 1KV |
| CP05 | 198565 | 20338740 | * CAPCD 1500PF K Y5P 1KV |
| CP06 | 198565 | 20338740 | * CAPCD 1500PF K Y5P 1KV |
| CP07 | 182286 | 20552180 | * CAP LYTC 330UF M 200V TVR1 |
| CP07 | 190560 | 80434450 | * CAP LYTC 680UF M 200V TVR2 |
| CP09 | 232367 | 20388780 | CAPCD .001UF M Y5R 1KV |
| CP11 | 230966 | 14002220 | CAPCD 330PF M Y5R 400V |
| CP12 | 232368 | 13070920 | CAP LYTC 1UF M 100V |
| CP13 | 230966 | 14002220 | CAPCD 330PF M Y5R 400V |
| CP14 | 232348 | 10122860 | CAP LYTC 1000UF M 25V |
| CP21 | 232370 | 10109980 | * CAPCD .047UF M 400V (SEE NOTE @) |
| CP21 | 232782 | 20574210 | * CAP POLY .047UF M Y5V 125V (SEE NOTE @) |
| CP22 | 230980 | 13070750 | CAP LYTC 47UF M 50V (85DEG)(SEE NOTE @) |
| CP22 | 193043 | 13089920 | CAP LYTC 47UF M 50V (105DEG)(SEE NOTE @) |
| CP24 | 230973 | 13074920 | CAP LYTC 4.7UF M 50V |
| CP25 | 194673 | 10120960 | CAP LYTC 1UF M 50V |
| CP27 | 230973 | 13074920 | CAP LYTC 4.7UF M 50V |
| CP29 | 232371 | 20505600 | CAPCD 680PF K Y5P 1KV TVR1 |
| CP29 | 235470 | 20537750 | CAPCD 560PF K Y5P 1KV TVR2 |
| CP33 | 198565 | 20338740 | CAPCD 1500PF K Y5P 1KV |
| CP34 | 198565 | 20338740 | CAPCD 1500PF K Y5P 1KV |
| CP35 | 230972 | 14035840 | CAPCD 330PF M Y5U 1KV |
| CP36 | 232372 | 20432970 | CAP LYTC 150UF M 200V |
| CP37 | 230961 | 14002190 | CAPCD 330PF K Y5P 400V |
| CP38 | 230958 | 13039590 | CAP LYTC 1000UF M 35V |
| CP43 | 232373 | 13076520 | CAP LYTC 1000UF M 6.3V |
| CP44 | 232374 | 14035850 | CAPCD 100PF FS Y5U 1KV |
| CP45 | 232367 | 20388780 | CAPCD .001UF M Y5R 1KV |
| CP46 | 153925 | 20467110 | CAP POLY .1UF K 100V |
| CP49 | 198575 | 15001120 | CAP POLY .01UF M 63V (SEE NOTE @) |
| CP49 | 200141 | 20467040 | CAP POLY .1UF K 63V (SEE NOTE @) |
| CP50 | 193043 | 13089920 | CAP LYTC 47UF M 50V |
| CP51 | 193043 | 13089920 | CAP LYTC 47UF M 50V |
| CP52 | 232375 | 10173540 | * CAP LYTC 470UF M 25V (SEE NOTE @) |
| CP52 | 201162 | 20467900 | * CAP LYTC 1000UF M 25V (SEE NOTE @) |
| CP53 | 232375 | 10173540 | CAP LYTC 470UF M 25V |
| CP54 | 232376 | 13040050 | CAP LYTC 470UF M 16V |
| CP55 | 232380 | 10173530 | CAP LYTC 1000UF M 16V |
| CP56 | 185862 | 13039570 | CAP LYTC 1000UF M 16V |
| CP57 | 222523 | 14034350 | CAPCD 1000PF K Y5R 400V |
| CP58 | 222523 | 14034350 | CAPCD 1000PF K Y5R 400V |
| CP59 | 222523 | 14034350 | CAPCD 1000PF K Y5R 400V |
| CP60 | 222523 | 14034350 | CAPCD 1000PF K Y5R 400V |
| CP82 | 176851 | 13070490 | CAP LYTC 33UF M 16V |
| CP515 | 206196 | 15005390 | CAPCC .022UF Z Y5V 25V |
| CP519 | 230968 | 15005750 | CAPCC 470PF K Y5P 50V |
| CP523 | 230967 | 15005590 | CAPCC 330PF K Y5P 50V |
| CP526 | 232378 | 15005910 | CAPCC 680PF K Y5P 50V |
| CP547 | 230964 | 15005770 | CAPCC 4700PF M Y5R 16V (SEE NOTE @) |
| CP547 | 232379 | 15005930 | CAPCC 6800PF M Y5R 16V (SEE NOTE @) |
| CP548 | 232379 | 15005930 | CAPCC 6800PF M Y5R 16V |
| CV01 | 189983 | 13074220 | CAP LYTC .47UF M 50V |
| CV02 | 194253 | 15002560 | CAP LYTC 22UF M 16V |
| CV03 | 232418 | 11055410 | CAPCD 150PF J N150 50V |
| CV04 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CV05 | 232376 | 13040050 | CAP LYTC 470UF M 16V |
| CV06 | 200153 | 30935470 | CAP POLY .047UF K 63V |
| CV08 | 232344 | 13091070 | CAP POLY .33UF K 63V |
| CV09 | 230977 | 15002760 | CAP LYTC 2.2UF M 50V |
| CV10 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CV11 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CV12 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CV13 | 232376 | 13040050 | CAP LYTC 470UF M 16V |
| CV26 | 194673 | 10120960 | CAP LYTC 1UF M 50V |
| CV29 | 194253 | 15002560 | CAP LYTC 22UF M 16V TVR1 |
| CV29 | 189981 | 15002130 | CAP LYTC 10UF M 16V TVR2 |
| CV514 | 206196 | 15005390 | CAPCC .022UF Z Y5V 25V |
| CV515 | 206196 | 15005390 | CAPCC .022UF Z Y5V 25V |
| CV517 | 232419 | 15005840 | CAPCC 56PF J SL 50V |
| CV518 | 232419 | 15005840 | CAPCC 56PF J SL 50V |
| CV519 | 232419 | 15005840 | CAPCC 56PF J SL 50V |
| CV520 | 230968 | 15005750 | CAPCC 470PF K Y5P 50V |
| CV521 | 206196 | 15005390 | CAPCC .022UF Z Y5V 25V |
| CV522 | 206196 | 15005390 | CAPCC .022UF Z Y5V 25V |
| CV523 | 206196 | 15005390 | CAPCC .022UF Z Y5V 25V |
| CV524 | 232345 | 15005760 | CAPCC 47PF J SL 50V |
| CV525 | 232345 | 15005760 | CAPCC 47PF J SL 50V |
| CV527 | 232420 | 15005640 | CAPCC 3300PF M Y5R 16V |
| CV528 | 232421 | 15005380 | CAPCC 220PF K Y5P 50V |
| CX03 | 194673 | 10120960 | CAP LYTC 1UF M 50V |
| CX04 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CX06 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CX08 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CX09 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CX10 | 200141 | 20467040 | CAP POLY .1UF K 63V |
| CX505 | 232422 | 15005620 | CAPCC 390PF K Y5P 50V |
| CX507 | 230965 | 15005470 | CAPCC 2200PF M Y5R 16V |
| CX510 | 206198 | 15004860 | CAPCC 100PF K Y5P 50V (SEE NOTE @) |
| CX510 | 232421 | 15005380 | CAPCC 220PF K Y5P 50V (SEE NOTE @) |
| CX511 | 232345 | 15005760 | CAPCC 47PF J SL 50V |
| CX512 | 232345 | 15005760 | CAPCC 47PF J SL 50V |
| CZ01 | 220631 | 14001600 | * CAPCD 1UF K Y5R 63V |
| DF01 | 198597 | 16008160 | DIODE |
| DF02 | 164717 | 70436540 | DIODE |
| DF21 | 164717 | 70436540 | DIODE |
| DF22 | 164717 | 70436540 | DIODE |
| DL01 | 164717 | 70436540 | DIODE |
| DL02 | 231028 | 20403770 | DIODE |

## REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| DL04 | 231028 | 20403770 | DIODE |
| DL05 | 231028 | 20403770 | DIODE |
| DL06 | 231028 | 20403770 | DIODE |
| DL07 | 198597 | 16008160 | DIODE |
| DL08 | 198597 | 16008160 | DIODE |
| DL11 | 164717 | 70436540 | DIODE |
| DL12 | 227961 | 60447770 | DIODE ZENER 3.9V .5W |
| DL13 | 227920 | 70438220 | DIODE ZENER 9.1V .5W |
| DL14 | 164717 | 70436540 | DIODE |
| DL20 | 164717 | 70436540 | DIODE |
| DL21 | 164717 | 70436540 | DIODE |
| DL23 | 164717 | 70436540 | DIODE |
| DP01 | 209919 | 60447780 * | DIODE (TVR1) |
| DP01 | 235471 | 16008460 * | DIODE (TVR2) |
| DP02 | 209919 | 60447780 * | DIODE (TVR1) |
| DP02 | 235471 | 16008460 * | DIODE (TVR2) |
| DP03 | 209919 | 60447780 * | DIODE (TVR1) |
| DP03 | 235471 | 16008460 * | DIODE (TVR2) |
| DP04 | 209919 | 60447780 * | DIODE (TVR1) |
| DP04 | 235471 | 16008460 * | DIODE (TVR2) |
| DP05 | 231028 | 20403770 | DIODE |
| DP06 | 231028 | 20403770 | DIODE |
| DP07 | 231028 | 20403770 | DIODE |
| DP10 | 232424 | 16008140 | DIODE |
| DP11 | 230758 | 16020210 | DIODE ZENER 2.7V 1.3W |
| DP12 | 209919 | 60447780 | DIODE |
| DP13 | 209919 | 60447780 | DIODE |
| DP20 | 232423 | 20344170 | DIODE |
| DP21 | 231028 | 20403770 | DIODE |
| DP30 | 231028 | 20403770 | DIODE |
| DP31 | 232424 | 16008140 | DIODE |
| DP32 | 164717 | 70436540 | DIODE |
| DP33 | 164717 | 70436540 | DIODE |
| DP34 | 220638 | 50890650 | DIODE ZENER 6.8V .5W |
| DP40 | 230757 | 16007470 | DIODE |
| DP41 | 164717 | 70436540 | DIODE |
| DP42 | 198602 | 80444140 | DIODE ZENER 5.1V .5W |
| DP43 | 224904 | 16008950 | DIODE |
| DP44 | 224904 | 16008950 | DIODE |
| DP45 | 224903 | 16008280 | DIODE |
| DP46 | 220638 | 50890650 | DIODE ZENER 6.8V .5W |
| DP82 | 164717 | 70436540 | DIODE |
| DV01 | 164717 | 70436540 * | DIODE |
| DV02 | 164717 | 70436540 | DIODE |
| DV03 | 164717 | 70436540 | DIODE |
| DV04 | 198602 | 80444140 | DIODE ZENER 5.1V .5W |
| DV05 | 227920 | 70438220 | DIODE ZENER 9.1V .5W |
| DV06 | 164717 | 70436540 | DIODE |
| DZ01 | 164717 | 70436540 * | DIODE |
| DZ02 | 159429 | 30946700 * | DIODE ZENER 10V .4W |
| FP01 | 198605 | 50366200 * | FUSE 2.5A 250V |
| IA01 | 232542 | 20319530 | IC AUDIO OUTPUT |
| IF01 | 232538 | 10044490 | IC VERT OUTPUT |
| IP01 | 230759 | 11006859 | IC REGULATOR |
| IP02 | 232425 | 20362040 * | IC OPTO-ISOLATOR (TLP521)(SEE NOTE @) |
| IP02 | 185215 | 20573910 * | IC OPTO-ISOLATOR (TLP621)(SEE NOTE @) |
| IV01 | 232426 | 20398420 | IC VIDEO/CHROMA |
| IX01 | 220114 | 2002729B | IC CLOSED CAPTION |
| JL502 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JL503 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JL505 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JL506 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JL513 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JP501 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JP527 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JP532 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JP535 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JP537 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JP538 | 231024 | 10113550 | RES CCF 1/10W 5% OR |

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| JV506 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JV507 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JV515 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JX10 | 198707 | 15006730 | RES CF 1/4W 5% 1K |
| JX506 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| JX507 | 231024 | 10113550 | RES CCF 1/10W 5% OR |
| LL01 | 230988 | 11007690 * | TRANSFORMER DRIVER |
| LL02 | 232427 | 47035600 * | BEAD |
| LL03 | 232324 | 2049994A * | COIL 90UH (TVR1) |
| LL03 | 235468 | 20532020 * | COIL 60UH (TVR2) |
| LL04 | 232428 | 10147490 | COIL 50UH TVR1,TVR2 (SEE NOTE@) |
| LL04 | 235513 | 20531970 | COIL 100UH TVR2(SEE NOTE@) |
| LL05 | 232429 | 20341750 * | TRANSFORMER IHVT TVR1 |
| LL05 | 235472 | 20370040 * | TRANSFORMER IHVT TVR2 |
| LL07 | 232325 | 20340890 | COIL 100UH (SEE NOTE@) |
| LL07 | 232324 | 2049994A | COIL 90UH (SEE NOTE@) |
| LP02 | 232430 | 47283900 * | TRANSFORMER MAIN FILTER (SEE NOTE @) |
| LP02 | 232783 | 20421300 * | TRANSFORMER MAIN FILTER (SEE NOTE @) |
| LP03 | 232431 | 2037793A * | TRANSFORMER SMT |
| LP04 | 232432 | 47243000 | CHOKE |
| LP06 | 230991 | 20326450 | COIL 4UH |
| LP07 | 230991 | 20326450 | COIL 4UH |
| LP09 | 232433 | 20539740 | BEAD |
| LP10 | 232434 | 20408050 * | TRANSFORMER SMT |
| LP11 | 219305 | 13092020 | COIL 6.8UH |
| LP12 | 219306 | 13053010 | COIL 22UH |
| LP13 | 232432 | 47243000 | CHOKE |
| LP14 | 210544 | 20459673 | BEAD |
| LP15 | 210544 | 20459673 | BEAD |
| LP16 | 224167 | 47033300 | BEAD |
| LP17 | 224167 | 47033300 | BEAD |
| LP18 | 210544 | 20459673 | BEAD |
| LP19 | 210544 | 20459673 | BEAD |
| LX01 | 232433 | 20539740 | BEAD |
| PP01 | 232435 | 20455820 | RES CONTROL 110V ADJ |
| PP02 | 232436 | 20189960 | RES CONTROL 9.5V ADJ |
| QC02 | 232438 | 10254150 | FILTER QUARTZ 3.579545MHZ |
| QV01 | 232441 | 48023700 | RESONATOR 503KHZ |
| RA02 | 232442 | 13060710 * | RES CFFP .3W 5% 3.3R |
| RA04 | 210183 | 15009540 | RES CF 1/4W 5% 9.1K (SEE NOTE @) |
| RA04 | 198720 | 15008720 | RES CF 1/4W 5% 56K (SEE NOTE @) |
| RA06 | 198644 | 15007580 | RES CF 1/4W 5% 2.7K |
| RA07 | 829310 | 15006130 | RES CF 1/4W 5% 10K |
| RA10 | 220663 | 15007290 | RES CF 1/4W 5% 22K |
| RA11 | 232443 | 15009340 | RES CF 1/4W 5% 82K |
| RA501 | 232444 | 15032440 | RES CCF 1/10W 5% 220K |
| RA505 | 232445 | 15032140 | RES CCF 1/10W 5% 150R |
| RA509 | 206354 | 15032250 | RES CCF 1/10W 5% 1K |
| RC02 | 198722 | 15008490 | RES CF 1/4W 5% 4.7K |
| RC08 | 220668 | 15008970 | RES CF 1/4W 5% 680R |
| RC506 | 232446 | 15033160 | RES CCF 1/10W 5% 680K |
| RC507 | 232447 | 15033040 | RES CCF 1/10W 5% 560K |
| RC520 | 232448 | 15032230 | RES CCF 1/10W 5% 18K |
| RE01 | 176646 | 15006630 | RES CF 1/4W 5% 180R (SEE NOTE @) |
| RE01 | 220648 | 15007430 | RES CF 1/4W 5% 270R (SEE NOTE @) |
| RE02 | 176646 | 15006630 | RES CF 1/4W 5% 180R (SEE NOTE @) |
| RE02 | 220648 | 15007430 | RES CF 1/4W 5% 270R (SEE NOTE @) |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| RF01 | 220618 | 15009870 | * RES CFFP .3W 5% 2.2R |
| RF02 | 175769 | 13005470 | RES CF 1/2W 5% 390R TVR1 |
| RF02 | 179798 | 13007160 | RES CF .43W 5% 820R TVR2 |
| RF04 | 179786 | 13001570 | RES MF 2W 5% 22R |
| RF05 | 200416 | 13004290 | RES CF 1/2W 5% 1.2R (SEE NOTE @) |
| RF05 | 232788 | 13081230 | RES MF 1W 5% 1.2R (SEE NOTE @) |
| RF22 | 198690 | 15009300 | RES CF 1/4W 5% 820R TVR1 |
| RF22 | 210198 | 15006780 | RES CF 1/4W 5% 1.2K TVR2 |
| RF506 | 232455 | 15037060 | RES CMF 1/10W 1% 2.74K |
| RF507 | 232456 | 15034800 | RES CMF 1/10W 1% 100R |
| RF508 | 232457 | 15035950 | RES CMF 1/10W 1% 1K TVR1 |
| RF508 | 235479 | 15035970 | RES CMF 1/10W 1% 1.05K TVR2 |
| RF509 | 231013 | 15032270 | RES CCF 1/10W 5% 1.2K |
| RF511 | 232458 | 15031990 | RES CCF 1/10W 5% 10K (SEE NOTE @) |
| RF511 | 232789 | 15034870 | RES CMF 1/10W 1% 10K (SEE NOTE @) |
| RF512 | 206365 | 15032320 | RES CCF 1/10W 5% 1M |
| RF513 | 232446 | 15033160 | RES CCF 1/10W 5% 680K |
| RF515 | 232459 | 15032880 | RES CCF 1/10W 5% 430K TVR1 |
| RF515 | 235478 | 15032640 | RES CCF 1/10W 5% 300K TVR2 |
| RF516 | 206354 | 15032250 | RES CCF 1/10W 5% 1K |
| RF517 | 232455 | 15037060 | RES CMF 1/10W 1% 2.74K (SEE NOTE @) |
| RF517 | 232790 | 15036930 | RES CMF 1/10W 1% 2K (SEE NOTE @) |
| RF521 | 231000 | 15032590 | RES CCF 1/10W 5% 2.7K |
| RL01 | 190556 | 13083620 | RES MF 1W 5% 390R TVR1 |
| RL01 | 235480 | 13001590 | RES MF 1W 5% 270R TVR2 |
| RL06 | 232460 | 13060250 | RES CF .7W 5% 4.7K (SEE NOTE @) |
| RL06 | 220655 | 20488660 | RES MF 2W 5% 680R (SEE NOTE @) |
| RL07 | 231023 | 20322320 | * RES CFF 1/2W 5% 1K |
| RL08 | 232461 | 20470460 | * RES MF 3W 5% 33R |
| RL10 | 220656 | 13004550 | RES CF .43W 5% 220R |
| RL11 | 231018 | 10226280 | * RES CFF 1/2W 5% 15R |
| RL12 | 232787 | 13000550 | RES CFF 1/2W 5% .39R TVR1 (SEE NOTE @) |
| RL12 | 230937 | 20322330 | RES CFF 1/2W 5% .56R TVR2 (SEE NOTE@) |
| RL12 | 232462 | 15009740 | RES CFF 1/2W 5% 1R TVR1,TVR2(SEE NOTE @) |
| RL13 | 232467 | 13000470 | * RES CFF 1/2W 5% 2.2R TVR1 (SEE NOTE@) |
| RL13 | 231015 | 13055100 | * RES CFF 1/2W 5% .22R TVR1 (SEE NOTE@) |
| RL13 | 235481 | 13088180 | * RES CFF 1/2W 5% 2.7R TVR2 (SEE NOTE@) |
| RL13 | 235514 | 10160020 | * RES CFF 1/2W 5% .68R TVR2 (SEE NOTE@) |
| RL15 | 232471 | 13004060 | RES CF .43W 5% 1.8K |
| RL20 | 232474 | 15006510 | RES CF 1/4W 5% 15K |
| RL22 | 232476 | 20419230 | RES MF 1W 5% 91K TVR1 |
| RL22 | 831382 | 13001900 | RES MFFP 1W 5% 82K TVR2 |
| RL502 | 232479 | 15033170 | RES CCF 1/10W 5% 680R (SEE NOTE @) |
| RL502 | 230998 | 15032930 | RES CCF 1/10W 5% 470R (SEE NOTE @) |
| RL503 | 231002 | 15032570 | RES CCF 1/10W 5% 2.2K |
| RL504 | 206363 | 15032970 | RES CCF 1/10W 5% 4.7K |
| RL521 | 231017 | 15032070 | RES CCF 1/10W 5% 12K |
| RL523 | 232483 | 15033280 | RES CCF 1/10W 5% 7.5K TVR1 |
| RL523 | 206363 | 15032970 | RES CCF 1/10W 5% 4.7K TVR2 (SEE NOTE@) |
| RL523 | 231017 | 15032070 | RES CCF 1/10W 5% 12K TVR2 (SEE NOTE@) |
| RP01 | 220653 | 20110870 | * RES WW 5W 10% 2.7R TVR1 |
| RP01 | 235482 | 20046810 | * RES WW 5W 5% 2R TVR2 |
| RP02 | 198688 | 90343700 | * RES POSISTOR (TVR1) |
| RP02 | 207768 | 30948690 | * THERMISTOR (TVR2) |
| RP03 | 232488 | 80439070 | RES WW 7W 10% 1K |
| RP04 | 220333 | 15041120 | * RES CC 1/2W 10% 1.8M |
| RP05 | 183193 | 13060860 | RES MF 2W 5% 12K |
| RP06 | 232495 | 13002980 | RES CF .43W 5% 100R |
| RP10 | 232496 | 20455800 | RES WW 3W 5% 18R |
| RP12 | 232497 | 80438270 | * RES MF 3W 5% 18K |
| RP14 | 829427 | 15007400 | RES CF 1/4W 5% 270K |
| RP15 | 829427 | 15007400 | RES CF 1/4W 5% 270K |
| RP20 | 232500 | 20396630 | RES MF 3W 5% .15R |
| RP21 | 181986 | 15041100 | * RES CC 1/2W 5% 3.3M |
| RP31 | 231015 | 13055100 | * RES CFF 1/2W 5% .22R |
| RP40 | 175771 | 13002940 | RES CF .43W 5% 100K |
| RP42 | 232501 | 13006420 | RES CF .43W 5% 56K |
| RP45 | 220647 | 15006600 | RES CF 1/4W 5% 180K |
| RP46 | 177596 | 13066290 | RES MF 2W 10% 100R |
| RP47 | 232502 | 13001520 | RES MF 2W 5% 220R |
| RP49 | 232503 | 80438190 | * RES MF 3W 5% 2.7R |
| RP60 | 144098 | 15022760 | RES MF 1W 10% 1K |
| RP61 | | | RES MF 3W 5% 330R (USE RP61 BELOW) |
| RP61 | 830215 | 13004000 | RES CF 1/2W 5% 1.5K |
| RP62 | 232504 | 13004760 | RES CF .43W 5% 270R |
| RP65 | 232505 | 13000170 | * RES CFF 1/2W 5% 18R |
| RP507 | 232509 | 15036850 | RES CMF 1/10W 1% 28K TVR1 (SEE NOTE @) |
| RP507 | 232791 | 15038340 | RES CMF 1/10W 1% 54.9K TVR1 (SEE NOTE @) |
| RP507 | 235483 | 15038380 | RES CMF 1/10W 1% 56.2K TVR2 |
| RP508 | 232510 | 15036000 | RES CMF 1/10W 1% 1.13K (SEE NOTE @) |
| RP508 | 232792 | 15036980 | RES CMF 1/10W 1% 2.26K (SEE NOTE @) |
| RP509 | 206362 | 15031970 | RES CCF 1/10W 5% 100K |
| RP513 | 232511 | 15036770 | RES CMF 1/10W 1% 274K |
| RP516 | 232512 | 15032710 | RES CCF 1/10W 5% 33R |
| RP518 | 232513 | 15032950 | RES CCF 1/10W 5% 47R |
| RP519 | 206354 | 15032250 | RES CCF 1/10W 5% 1K |
| RP526 | 232514 | 15034970 | REC CMF 1/10W 1% 113K |
| RP527 | 232515 | 15032920 | RES CCF 1/10W 5% 470K |
| RP528 | 232515 | 15032920 | RES CCF 1/10W 5% 470K |
| RP541 | 231004 | 15033210 | RES CCF 1/10W 5% 6.8K |
| RP543 | 210731 | 15032810 | RES CCF 1/10W 5% 3.3K |
| RP548 | 206363 | 15032970 | RES CCF 1/10W 5% 4.7K |
| RP550 | 206354 | 15032250 | RES CCF 1/10W 5% 1K (SEE NOTE @) |
| RP550 | 232793 | 15032310 | RES CMF 1/10W 5% 1.8K (SEE NOTE @) |
| RP551 | 232794 | 15033010 | RES CMF 1/10W 5% 510R (SEE NOTE @) |
| RP551 | 231516 | 15032770 | RES CCF 1/10W 5% 390R (SEE NOTE @) |
| RP552 | 232517 | 15032530 | RES CCF 1/10W 5% 270R |
| RP553 | 232450 | 15032460 | RES CCF 1/10W 5% 22K |
| RP554 | 231004 | 15033210 | RES CCF 1/10W 5% 6.8K |
| RP555 | 206354 | 15032250 | RES CCF 1/10W 5% 1K |
| RP556 | 206364 | 15031980 | RES CCF 1/10W 5% 100R |
| RP557 | 232458 | 15031990 | RES CCF 1/10W 5% 10K |
| RP558 | 210731 | 15032810 | RES CCF 1/10W 5% 3.3K |
| RP563 | 206354 | 15032250 | RES CCF 1/10W 5% 1K |
| RP564 | 232525 | 15033050 | RES CCF 1/10W 5% 560R |
| RP580 | 231004 | 15033210 | RES CCF 1/10W 5% 6.8K |
| RP581 | 232526 | 15032700 | RES CCF 1/10W 5% 33K |
| RP582 | 232524 | 15032940 | RES CCF 1/10W 5% 47K |
| RV01 | 232467 | 13000470 | * RES CFF 1/2W 5% 2.2R |
| RV02 | 232527 | 15009950 | * RES CFF .3W 5% 39R |
| RV08 | 198699 | 15006660 | RES CF 1/4W 5% 18K TVR1 |
| RV08 | 220658 | 15009000 | RES CF 1/4W 5% 68K TVR2 |
| RV16 | 232521 | 15007260 | RES CF 1/4W 5% 220R |
| RV17 | 232521 | 15007260 | RES CF 1/4W 5% 220R |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | | DESCRIPTION |
|---|---|---|---|---|
| RV18 | 232521 | 15007260 | | RES CF 1/4W 5% 220R |
| RV25 | 198719 | 15007830 | | RES CF 1/4W 5% 33K TVR1 |
| RV25 | 235484 | 13060360 | | RES CF 1/4W 5% 24K TVR2 |
| RV39 | 198707 | 15006730 | | RES CF 1/4W 5% 1K |
| RV41 | 230997 | 15009970 | * | RES CFF .3W 5% 3.9R |
| RV44 | 198646 | 15007540 | | RES CF 1/4W 5% 2.2K (SEE NOTE @) |
| RV44 | 198672 | 15006830 | | RES CF 1/4W 5% 1.5K (SEE NOTE @) |
| RV45 | 829310 | 15006130 | | RES CF 1/4W 5% 10K |
| RV46 | 198717 | 15008360 | | RES CF 1/4W 5% 470R |
| RV47 | 177596 | 13066290 | | RES MF 2W 10% 100R |
| RV501 | 206363 | 15032970 | | RES CCF 1/10W 5% 4.7K |
| RV509 | 232444 | 15032440 | | RES CCF 1/10W 5% 220K |
| RV514 | 232522 | 15033270 | | RES CCF 1/10W 5% 75R |
| RV515 | 206354 | 15032250 | | RES CCF 1/10W 5% 1K |
| RV520 | 230998 | 15032930 | | RES CCF 1/10W 5% 470R |
| RV521 | 231000 | 15032590 | | RES CCF 1/10W 5% 2.7K |
| RV523 | 231017 | 15032070 | | RES CCF 1/10W 5% 12K TVR1 |
| RV523 | 235485 | 15032150 | | RES CCF 1/10W 5% 15K TVR2 |
| RV526 | 206364 | 15031980 | | RES CCF 1/10W 5% 100R |
| RV527 | 206354 | 15032250 | | RES CCF 1/10W 5% 1K |
| RV528 | 232448 | 15032230 | | RES CCF 1/10W 5% 18K |
| RV529 | 232450 | 15032460 | | RES CCF 1/10W 5% 22K |
| RV533 | 232523 | 15032520 | | RES CCF 1/10W 5% 270K |
| RV534 | 206354 | 15032250 | | RES CCF 1/10W 5% 1K |
| RV535 | 232524 | 15032940 | | RES CCF 1/10W 5% 47K |
| RV536 | 231013 | 15032270 | | RES CCF 1/10W 5% 1.2K |
| RV537 | 206354 | 15032250 | | RES CCF 1/10W 5% 1K |
| RV538 | 231013 | 15032270 | | RES CCF 1/10W 5% 1.2K (SEE NOTE @) |
| RV538 | 232795 | 15033310 | | RES CMF 1/10W 5% 820R (SEE NOTE @) |
| RV540 | 206363 | 15032970 | | RES CCF 1/10W 5% 4.7K |
| RV543 | 232458 | 15031990 | | RES CCF 1/10W 5% 10K |
| RV546 | 210731 | 15032810 | | RES CCF 1/10W 5% 3.3K |
| RX10 | 198707 | 15006730 | | RES CF 1/4W 5% 1K (SEE NOTE @) |
| RX10 | 232521 | 15007260 | | RES CF 1/4W 5% 220R (SEE NOTE @) |
| RX14 | 232528 | 15007460 | | RES CF 1/4W 5% 27K |
| RX502 | 206362 | 15031970 | | RES CCF 1/10W 5% 100K |
| RX503 | 232458 | 15031990 | | RES CCF 1/10W 5% 10K |
| RX506 | 230998 | 15032930 | | RES CCF 1/10W 5% 470R |
| RX507 | 231004 | 15033210 | | RES CCF 1/10W 5% 6.8K |
| RX508 | 232529 | 15032450 | | RES CCF 1/10W 5% 220R |
| RX509 | 232529 | 15032450 | | RES CCF 1/10W 5% 220R |
| RX511 | 206363 | 15032970 | | RES CCF 1/10W 5% 4.7K TVR1 |
| RX511 | 235486 | 15032830 | | RES CCF 1/10W 5% 3.9K TVR2 |
| RX512 | 206363 | 15032970 | | RES CCF 1/10W 5% 4.7K TVR1 |
| RX512 | 235486 | 15032830 | | RES CCF 1/10W 5% 3.9K TVR2 |
| RX513 | 206363 | 15032970 | | RES CCF 1/10W 5% 4.7K TVR1 |
| RX513 | 235486 | 15032830 | | RES CCF 1/10W 5% 3.9K TVR2 |
| RX515 | 232516 | 15032770 | | RES CCF 1/10W 5% 390R |
| RX516 | 232516 | 15032770 | | RES CCF 1/10W 5% 390R |
| RX517 | 232516 | 15032770 | | RES CCF 1/10W 5% 390R |
| RZ02 | 198646 | 15007540 | * | RES CF 1/4W 5% 2.2K |
| RZ04 | 160155 | 15010340 | * | RES MF .4W 1% 10K |
| RZ501 | 206364 | 15031980 | | RES CCF 1/10W 5% 100R (SEE NOTE@) |
| RZ501 | 232522 | 15033270 | | RES CCF 1/10W 5% 75R (SEE NOTE@) |
| RZ503 | 232530 | 15039100 | | RES CMF 1/10W 1% 7.15K TVR1 |
| RZ503 | 235487 | 15039120 | | RES CMF 1/10W 1% 7.5K TVR2 |
| RZ505 | 232458 | 15031990 | | RES CCF 1/10W 5% 10K |
| SP05 | 190490 | 90578040 | | RELAY |

| SYMBOL NO. | STOCK NO. | DRAWING NO. | | DESCRIPTION |
|---|---|---|---|---|
| TA01 | 198747 | 16001120 | | TRANSISTOR VOL CONTROL |
| TA02 | 198746 | 16000940 | | TRANSISTOR MUTE |
| TF21 | 198743 | 16000930 | | TRANSISTOR BUFFER |
| TL01 | 230763 | 16000560 | | TRANSISTOR DRIVER |
| TL02 | 230760 | 16005230 | * | TRANSISTOR HORIZ OUT |
| TL02 | 235504 | 20578760 | * | TRANSISTOR HORIZ OUT |
| TL13 | 230763 | 16000560 | | TRANSISTOR REGULATOR |
| TP01 | 230761 | 16004600 | | TRANSISTOR CHOPPER |
| TP02 | 220674 | 16000920 | | TRANSISTOR FEEDBACK AMP |
| TP05 | 225523 | 16004590 | | TRANSISTOR OUTPUT |
| TP06 | 230763 | 16000560 | | TRANSISTOR REG OUTPUT |
| TP07 | 198743 | 16000930 | | TRANSISTOR FEEDBACK AMP |
| TP08 | 198743 | 16000930 | | TRANSISTOR FEEDBACK AMP |
| TP09 | 230764 | 16001110 | | TRANSISTOR FEEDBACK AMP |
| TP10 | 230764 | 16001110 | | TRANSISTOR REG AMP |
| TP82 | 230764 | 16001110 | | TRANSISTOR SWITCH |
| TV01 | 215997 | 16000450 | | TRANSISTOR REGULATOR |
| TV02 | 198743 | 16000930 | | TRANSISTOR SWITCH |
| TV03 | 230764 | 16001110 | | TRANSISTOR VIDEO AMP |
| TV04 | 215997 | 16000450 | | TRANSISTOR REGULATOR |
| W001 | 233556 | 20367330 | | CABLE ASY 9 PIN |
| W001 | 235494 | 20499280 | | CABLE ASY 9 PIN TVR2 |

## KINE DRIVER CBA

| SYMBOL NO. | STOCK NO. | DRAWING NO. | | DESCRIPTION |
|---|---|---|---|---|
| | 232551 | 20362390 | ● | CIRCUIT COMPLETE TVR1 |
| | 235488 | 20417680 | ● | CIRCUIT COMPLETE TVR2 |
| BT01 | 224146 | 20174620 | * | SOCKET PIX TUBE |
| BT02 | 230935 | 20174650 | * | SOCKET, PIX TUBE |
| CT81 | 189981 | 15002130 | | CAP LYTC 10UF M 16V |
| CT82 | 232543 | 13047550 | | CAP LYTC 2.2UF M 250V |
| CT83 | 189981 | 15002130 | | CAP LYTC 10UF M 16V |
| CT84 | 232544 | 14033040 | | CAPCD .01UF M Y5U 400V |
| CT85 | 183147 | 14036020 | * | CAPCD 2200PF FS Y5U 2KV |
| CT550 | 230969 | 15005190 | | CAPCC 1000PF K Y5P 50V |
| CT552 | 206198 | 15004860 | | CAPCC 100PF K Y5P 50V TVR1 |
| CT552 | 230956 | 15004960 | | CAPCC 120PF K Y5P 50V TVR2 |
| CT560 | 230969 | 15005190 | | CAPCC 1000PF K Y5P 50V |
| CT562 | 206198 | 15004860 | | CAPCC 100PF K Y5P 50V TVR1 |
| CT562 | 230956 | 15004960 | | CAPCC 120PF K Y5P 50V TVR2 |
| CT570 | 230969 | 15005190 | | CAPCC 1000PF K Y5P 50V |
| CT572 | 206198 | 15004860 | | CAPCC 100PF K Y5P 50V TVR1 |
| CT572 | 230956 | 15004960 | | CAPCC 120PF K Y5P 50V TVR2 |
| CT583 | 232345 | 15005760 | | CAPCC 47PF J SL 50V |
| DT50 | 164717 | 70436540 | | DIODE |
| DT51 | 164717 | 70436540 | | DIODE |
| DT53 | 230757 | 16007470 | | DIODE |
| DT54 | 198646 | 15007540 | | RES CF 1/4W 5% 2.2K |
| DT60 | 164717 | 70436540 | | DIODE |
| DT61 | 164717 | 70436540 | | DIODE |
| DT63 | 230757 | 16007470 | | DIODE |
| DT64 | 198646 | 15007540 | | RES CF 1/4W 5% 2.2K |
| DT70 | 164717 | 70436540 | | DIODE |
| DT71 | 164717 | 70436540 | | DIODE |
| DT73 | 230757 | 16007470 | | DIODE |
| DT74 | 198646 | 15007540 | | RES CF 1/4W 5% 2.2K |
| DT83 | 164717 | 70436540 | | DIODE |
| DT85 | 232545 | 11073660 | | DIODE ZENER 8.2V .5W |
| HT01 | 233555 | 2036502A | | CABLE ASY 10 PIN TVR2 |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| HT01 | 235495 | 2042566A | CONNECTOR 10 PIN TVR2 |
| JT501 | 231024 | 10113550 | RES CCF 1/10W 5% 0R |
| JT502 | 231024 | 10113550 | RES CCF 1/10W 5% 0R |
| JT503 | 231024 | 10113550 | RES CCF 1/10W 5% 0R |
| JT504 | 231024 | 10113550 | RES CCF 1/10W 5% 0R |
| RT51 | 198707 | 15006730 | RES CF 1/4W 5% 1K |
| RT52 | 179956 | 13001540 | RES MF 2W 5% 22K |
| RT54 | 195726 | 13003940 | RES CF .43W 5% 1.2K |
| RT57 | 232546 | 13082180 | RES MF 1W 5% 56K TVR1 |
| RT57 | 179784 | 10133770 | RES MF 1W 5% 68K TVR2 |
| RT61 | 198707 | 15006730 | RES CF 1/4W 5% 1K |
| RT62 | 179956 | 13001540 | RES MF 2W 5% 22K |
| RT64 | 195726 | 13003940 | RES CF .43W 5% 1.2K |
| RT67 | 232546 | 13082180 | RES MF 1W 5% 56K TVR1 |
| RT67 | 179784 | 10133770 | RES MF 1W 5% 68K TVR2 |
| RT71 | 198707 | 15006730 | RES CF 1/4W 5% 1K |
| RT72 | 179956 | 13001540 | RES MF 2W 5% 22K |
| RT74 | 195726 | 13003940 | RES CF .43W 5% 1.2K |
| RT77 | 232546 | 13082180 | RES MF 1W 5% 56K TVR1 |
| RT77 | 179784 | 10133770 | RES MF 1W 5% 68K TVR2 |
| RT90 | 198811 | 15006200 | RES CF .7W 5% 10R |
| RT92 | 232548 | 40434960 * | RES CC 1/2W 5% 10K |
| RT94 | 232521 | 15007260 | RES CF 1/4W 5% 220R |
| RT553 | 231013 | 15032270 | RES CCF 1/10W 5% 1.2K |
| RT555 | 206354 | 15032250 | RES CCF 1/10W 5% 1K |
| RT558 | 231013 | 15032270 | RES CCF 1/10W 5% 1.2K TVR1 |
| RT558 | 206354 | 15032250 | RES CCF 1/10W 5% 1K TVR2 |
| RT563 | 231013 | 15032270 | RES CCF 1/10W 5% 1.2K |
| RT565 | 206354 | 15032250 | RES CCF 1/10W 5% 1K |
| RT568 | 231013 | 15032270 | RES CCF 1/10W 5% 1.2K TVR1 |
| RT568 | 206354 | 15032250 | RES CCF 1/10W 5% 1K TVR2 |
| RT573 | 231013 | 15032270 | RES CCF 1/10W 5% 1.2K |
| RT575 | 206354 | 15032250 | RES CCF 1/10W 5% 1K |
| RT578 | 231013 | 15032270 | RES CCF 1/10W 5% 1.2K TVR1 |
| RT578 | 206354 | 15032250 | RES CCF 1/10W 5% 1K TVR2 |
| RT580 | 232448 | 15032230 | RES CCF 1/10W 5% 18K |
| RT581 | 232547 | 15032960 | RES CCF 1/10W 5% 4.3K TVR1 |
| RT581 | 235493 | 15033080 | RES CCF 1/10W 5% 5.1K TVR2 |
| RT583 | 231000 | 15032590 | RES CCF 1/10W 5% 2.7K |
| RT585 | 206354 | 15032250 | RES CCF 1/10W 5% 1K |
| TT50 | 232549 | 16003090 | TRANSISTOR DRIVER |
| TT51 | 198751 | 16003110 | TRANSISTOR OUTPUT |
| TT52 | 185197 | 16003760 | TRANSISTOR DRIVER |
| TT60 | 232549 | 16003090 | TRANSISTOR DRIVER |
| TT61 | 198751 | 16003110 | TRANSISTOR OUTPUT |
| TT62 | 185197 | 16003760 | TRANSISTOR DRIVER |
| TT70 | 232549 | 16003090 | TRANSISTOR DRIVER |
| TT71 | 198751 | 16003110 | TRANSISTOR OUTPUT |
| TT72 | 185197 | 16003760 | TRANSISTOR DRIVER |
| TT81 | 232550 | 16001060 | TRANSISTOR SWITCH |

## MECHANICAL ASSEMBLY-TV

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| 1 | MK1955 | 2041345B * | MASK, CABINET FRONT 13TVR60 |
| 1 | MK1959 | 2055220A * | MASK, CABINET FRONT 13TVR70 |
| 1 | MK2030 | 20421470 * | MASK, CABINET FRONT 19TVR60 |
| 1 | MK1957 | 20552090 * | MASK, CABINET FRONT T13060 |
| 1 | MK2034 | 2056851B * | MASK, CABINET FRONT T13065 |
| 1 | MK2039 | 2056857B * | MASK, CABINET FRONT T13070 |
| 1 | MK2036 | 2056603A * | MASK, CABINET FRONT T19060 |
| 2 | BK1956 | 2041373A * | BACK, COVER 13TVR60, T13060 |
| 2 | BK1960 | 2055253B * | BACK, COVER 13TVR70, T13070 |
| 2 | BK2035 | 20413730 * | BACK, COVER T13065 |
| 2 | BK2031 | 20421430 * | BACK, COVER 19TVR60, T19060 |
| 3 | 232533 | 20389990 | BRACKET, CHASSIS |
| 5 | 232314 | 2041501A | BUTTON CLUSTER 13TVR60, 19TVR60 |
| 5 | 232775 | 2055255A | BUTTON CLUSTER 13TVR70 |
| 5 | 232561 | 20552080 | BUTTON CLUSTER (7 BUTTON) T13060, T19060 |
| 5 | 235499 | 2056850B | BUTTON, CLUSTER (7 BUTTON) T13065 |
| 5 | 235515 | 2056855B | BUTTON, CLUSTER (7 BUTTON) T13070 |
| 5 | 232563 | 20552040 | BUTTON CLUSTER (VOL/PROG) T13060, T19060 |
| 5 | 235500 | 2056849A | BUTTON, CLUSTER (VOL/PROG) T13065 |
| 5 | 235516 | 2056853A | BUTTON, CLUSTER (VOL/PROG) T13070 |
| 6 | 223313 | 2041351A | DOOR, AUX CONTROL 13TVR60 |
| 6 | 232773 | 2055221A | DOOR, AUXILIARY 13TVR70, T13070 |
| 6 | 235463 | 2041351B | DOOR, AUX CONTROL 19TVR60 |
| 6 | 232560 | 20552300 | DOOR, AUX CONTROL T13060 |
| 6 | 235498 | 20571510 | DOOR, AUXILIARY T13065 |
| 6 | 235511 | 20575440 | DOOR, AUXILIARY T19060 |
| 7 | 232776 | 20390040 | WINDOW, IR 13TVR60, 13TVR70, 19TVR60 |
| 7 | 232922 | 20426290 | WINDOW, IR T13060, T13065, T13070, T19060 |
| 8 | A34JFQ90X | 20262780 * | PICTURE TUBE 13TVR60, 13TVR70, T13060, T13065, T13070 |
| 8 | 5UEB22TC55 | 20414230 * | PICTURE TUBE ASY 19TVR60, T19060 |
| 10 | 232778 | 2044620A | GUIDE, SWIVEL 13TVR70, T13070 (USES BEARING, SWIVEL LISTED BELOW) |
| 11 | 232777 | 2044617A | BASE, SWIVEL 13TVR70, T13070 |
| 13 | 233183 | 20390050 | LIGHT GUIDE, LED 13TVR60, 13TVR70 |
| 13 | 233184 | 20426270 | LIGHT GUIDE, LED 19TVR60, T13060, T13065, T13070, T19060 |
| 14 | 149552 | 1054050A * | SCREW, 5.7MMDx28.5MM KINE MTG (4) 13TVR60, 13TVR70, T13060, T13065, T13070 |
| 14 | 235464 | 67487000 | SCREW, 7MMDx38MM KINE MTG (4) 19TVR60, T19060 |
| 15 | 221586 | 30909799 | SCREW, 4.8MMDx16MM LG CABINET (6) |
| 16 | 232316 | 20411860 | SPEAKER, 4W 16 OHM 13TVR60, 13TVR70, T13060 |
| 16 | 235502 | 20088510 | SPEAKER, 3W 16 OHM T13065, T13070 |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| 16 | 235465 | 20419420 | SPEAKER, 3.5W 16 OHM 19TVR60,T19060 |
| | 232779 | 20455010 | BEARING, SWIVEL 13TVR70,T13070 |
| | 232537 | 10010410 | CLIP, IA01/IF01 |
| | 210537 | 57040900 | CLIP, TP01 |
| | 232539 | 10762100 | CLIP, TL02 |
| | 198807 | 2012194A | * COIL, DEGAUSSING (SEE NOTE @) 13TVR60,13TVR70, T13060 |
| | 232781 | 20590120 | * COIL, DEGAUSSING (SEE NOTE @) 13TVR60,13TVR70, T13060,T13065, T13070 |
| | 230744 | 20449410 | * COIL, DEGAUSSING 19TVR60,T19060 |
| | 210552 | 30930810 | CONNECTOR 2 PIN |
| | 232315 | 10153080 | CONNECTOR, HORIZ YOKE |
| | 198778 | 67193911 | CONNECTOR, VERT YOKE |
| | 232541 | 20167180 | CUSHION, YOKE ADJ WEDGE 19TVR60, T19060 |
| | 149903 | 30728800 | CUSHION, YOKE ADJ WEDGE 13TVR60,13TVR70,T13060, T13065,T13070 |
| | 232780 | 20456120 | FOOT, RUBBER (SWIVEL) 13TVR70,T13070 |
| | 233557 | 20366110 | HEATSINK, IA01/IF01 |
| | 233558 | 20366090 | HEATSINK, TL02 |
| | 233559 | 20366120 | HEATSINK, TP02 |
| | 232921 | 20554660 | HOOK, REMOTE MTG 13TVR70,T13070 |
| | 232327 | 20166490 | MAGNET, BEAM BENDER |
| | 175364 | 41012502 | * RESISTOR .43W 5% 680R (ON YOKE) |
| | 164699 | 90542011 | RETAINER, WIRE TIE |
| | 219178 | 20060090 | SCREW, 3MMDx10MM |
| | 235466 | 64059857 | SCREW, 3MMDx12MM |
| | 224168 | 11005556 | SCREW, 3.5MMDx9.5M LGT GUIDE(1)/SPKR(2) |
| | 209729 | 50109000 | SCREW, 4MMDx12MM IHVT |
| | 164100 | 90313300 | SPRING, DEGAUSS MTG |
| | 213201 | 30898500 | SPRING, DOOR 13TVR60, T13060 |
| | 232774 | 20589050 | SPRING, DOOR 13TVR70 |
| | 139301 | 67492300 | WIRE TIE, DEGAUSS MTG |
| | 232326 | 20166560 | * YOKE |

## VCR SECTION

## TVR2A/TVR2B VCR DECK ELECTRICAL ASSEMBLIES

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| | | | CIRCUIT CHAN/VOL KEYBD T13060GY,T13065, T13070,T190R60 (SEE #0213) |
| | | | CIRCUIT KEYBD/DISPLAY T13060GY,T13065, T13070,T190R60 (SEE #0210M) |
| | | | CIRCUIT KEYBD/DISPLAY 13TVR60,13TVR70, 19TVR60 (SEE #0210M) |
| | | | CIRCUIT MAIN VCR (SEE #0005M) |
| | | | CIRCUIT TUNER VCR (SEE #NZ001) |

## ELECTRICAL COMPONENTS

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| BP01 | | | CABLE, AC CORD (SEE MECHANICAL PARTS) |
| BP001 | 232295 | 20487530 | CONNECTOR AC CORD |
| BS030 | 224922 | 20212580 | CONNECTOR 2 PIN VIDEO ERASE HEAD |
| BS031 | 224923 | 10120770 | CONNECTOR 7 PIN AUDIO ERASE HEAD |
| BT001 | 232296 | 10347540 | CONNECTOR 12 PIN KEYBOARD |
| BT005 | 224927 | 60431002 | CONNECTOR 6 PIN LOADING MOTOR |
| BT006 | 224929 | 10120820 | CONNECTOR 14 PIN CAPSTAN MTR |
| BV001 | 224930 | 10175950 | CONNECTOR 10 PIN LOWER DRUM |
| BX001 | 232297 | 11097270 | JACK A/V OUTPUT |
| BX020 | 224931 | 20215400 | JACK A/V INPUT |
| BX100 | 232571 | 10242330 | CABLE ASY 4 PIN |
| CN001 | 219199 | 20225890 | CAPCC .001UF J N750 50V |
| CN002 | 219199 | 20225890 | CAPCC .001UF J N750 50V |
| CN003 | 219199 | 20225890 | CAPCC .001UF J N750 50V |
| CN008 | 195689 | 11059340 | CAPCC .01UF K X7R 50V |
| CN009 | 219199 | 20225890 | CAPCC .001UF J N750 50V |
| CN010 | 219199 | 20225890 | CAPCC .001UF J N750 50V |
| CN011 | 215555 | 40432770 | CAPCC .01UF K X7R 50V |
| CN012 | 215555 | 40432770 | CAPCC .01UF K X7R 50V |
| CN013 | 195689 | 11059340 | CAPCC .01UF K X7R 50V |
| CN014 | 215555 | 40432770 | CAPCC .01UF K X7R 50V |
| CN015 | 195689 | 11059340 | CAPCC .01UF K X7R 50V |
| CN016 | 219207 | 20227010 | CAPCC 6800PF K XR7 50V |
| CN017 | 206215 | 11058940 | CAPCC 100PF J N750 50V |
| CN022 | 206215 | 11058940 | CAPCC 100PF J N750 50V |
| CN023 | 219208 | 20227710 | CAPCC 100PF J NPO 50V |
| CS001 | 224935 | 60440410 | CAPCC 1500PF J N750 50V |
| CS002 | 193587 | 15003210 | CAP LYTC 4.7UF M 25V |
| CS003 | 224935 | 60440410 | CAPCC 1500PF J N750 50V |
| CS004 | 193587 | 15003210 | CAP LYTC 4.7UF M 25V |
| CS005 | 187270 | 10257720 | CAP LYTC 22UF M 16V |
| CS006 | 207533 | 20266300 | CAP POLY .01UF J 50V |
| CS007 | 193585 | 10167020 | CAP LYTC 47UF M 16V |
| CS009 | 197057 | 20251250 | CAPCC .047UF K X7R 50V |
| CS012 | 217298 | 15040860 | CAPCC .22UF Z Y5V 25V |
| CS014 | 193585 | 10167020 | CAP LYTC 47UF M 16V |
| CS016 | 210799 | 40432850 | CAPCC .22UF Z Y5V 50V |
| CS018 | 210799 | 40432850 | CAPCC .22UF Z Y5V 50V |
| CS020 | 222522 | 15001620 | CAP POLY 6800PF J 63V |
| CS021 | 194557 | 13082060 | CAP LYTC 10UF M 50V |
| CS022 | 187270 | 10257720 | CAP LYTC 22UF M 16V |
| CS023 | 205237 | 40432910 | CAP POLY .056UF J 63V |
| CS024 | 212417 | 20355480 | CAP POLY 4700PF J 50V |
| CS025 | 194557 | 13082060 | CAP LYTC 10UF M 50V |
| CS028 | 207542 | 20344150 | CAP POLY .012UF J 50V |
| CS030 | 212434 | 20229450 | CAPCC .01UF K X7R 50V |
| CS031 | 224936 | 20198930 | CAPCC 5600PF Z Y5V 50V |
| CS033 | 205237 | 40432910 | CAP POLY .056UF J 63V |
| CS034 | 226429 | 14033010 | CAPCD 470PF K Y5P 400V |
| CS036 | 194673 | 10120960 | CAP LYTC 1UF M 50V |
| CS038 | 193585 | 10167020 | CAP LYTC 47UF M 16V |
| CT010 | 211536 | 20226980 | CAPCC 2200PF K X7R 50V |
| CT011 | 232251 | 13071090 | CAP LYTC 47UF M 16V |
| CT012 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT013 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT014 | 161997 | 40432840 | CAPCC .1UF Z Y5V 50V |
| CT015 | 212396 | 20224990 | RES CMF 1/10W 5% 33K |
| CT017 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT019 | 211536 | 20226980 | CAPCC 2200PF K X7R 50V |
| CT020 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT021 | 161997 | 40432840 | CAPCC .1UF Z Y5V 50V |
| CT022 | 226431 | 40432890 | CAP POLY .47UF K 63V |
| CT023 | 152242 | 15002740 | CAP LYTC 2.2UF M 50V |
| CT028 | 226432 | 20230630 | CAPCC .015UF K X7R 50V |
| CT029 | 226432 | 20230630 | CAPCC .015UF K X7R 50V |
| CT030 | 226432 | 20230630 | CAPCC .015UF K X7R 50V |
| CT069 | 219221 | 15049350 | CAPCC .47UF Z Y5V 16V |
| CT070 | 219215 | 20230650 | CAPCC .1UF Z Y5V 25V |
| CT100 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT101 | 214732 | 30938740 | CAPCC 470PF J NPO 50V |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| CT102 | 216021 | 20226560 | CAPCC 470PF J NPO 50V |
| CT103 | 216021 | 20226560 | CAPCC 470PF J NPO 50V |
| CT104 | 216022 | 20228910 | CAPCC 10PF D NPO 50V |
| CT105 | 216022 | 20228910 | CAPCC 10PF D NPO 50V |
| CT108 | 232251 | 13071090 | CAP LYTC 47UF M 16V |
| CT109 | 212433 | 20229430 | CAPCC 560PF K X7R 50V |
| CT110 | 232251 | 13071090 | CAP LYTC 47UF M 16V |
| CT111 | 212433 | 20229430 | CAPCC 560PF K X7R 50V |
| CT112 | 219238 | 20227160 | CAPCC 150PF J NPO 50V |
| CT113 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT114 | 212291 | 20228330 | CAPCC 22PF J NPO 50V |
| CT115 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT116 | 232253 | 13074310 | CAP LYTC 1UF M 50V |
| CT117 | 232253 | 13074310 | CAP LYTC 1UF M 50V |
| CT118 | 225645 | 50876840 | CAP LYTC .1UF Z 5.5V |
| CT119 | 212288 | 20231250 | CAPCC 1000PF K X7R 50V |
| CT120 | 212288 | 20231250 | CAPCC 1000PF K X7R 50V |
| CT121 | 232254 | 20355070 | CAP LYTC 100UF M 25V |
| CT123 | 211531 | 20228920 | CAPCC 15PF J NPO 50V |
| CT124 | 217298 | 15040860 | CAPCC .22UF Z Y5V 25V |
| CT127 | 221521 | 14035530 | CAPCC .022UF K Y5R 25V |
| CT128 | 195689 | 11059340 | CAPCC .01UF K X7R 50V |
| CT131 | 208429 | 13051370 | CAP LYTC 47UF M 16V |
| CT139 | 211531 | 20228920 | CAPCC 15PF J NPO 50V |
| CT140 | 212434 | 20229450 | CAPCC .01UF K X7R 50V |
| CT141 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT142 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT150 | 232234 | 20227190 | CAPCC 270PF K NPO 50V |
| CT200 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT201 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT202 | 232251 | 13071090 | CAP LYTC 47UF M 16V |
| CT203 | 193579 | 15002470 | CAP LYTC 220UF M 10V |
| CT204 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CT300 | 212434 | 20229450 | CAPCC .01UF K X7R 50V |
| CV002 | 219231 | 20230140 | CAPCC 180PF J NPO 50V |
| CV003 | 219223 | 20227510 | CAPCC 220PF J N750 50V |
| CV004 | 211511 | 20225850 | CAPCC 68PF J N750 50V |
| CV005 | 226485 | 15070840 | CAPCC 620PF G NPO 50V |
| CV007 | 211522 | 10140570 | CAPCC 1UF Z Y5V 16V |
| CV008 | 212291 | 20228330 | CAPCC 22PF J NPO 50V |
| CV009 | 211545 | 20283210 | CAPCC .01UF K X7R 50V |
| CV010 | 225484 | 11070800 | CAPCC 820PF J N470 50V |
| CV011 | 225487 | 20350780 | CAPCC 130PF J N750 50V |
| CV012 | 219215 | 20230650 | CAPCC .1UF Z Y5V 25V |
| CV013 | 152239 | 13091760 | CAP LYTC 3.3UF M 50V |
| CV015 | 226432 | 20230630 | CAPCC .015UF K X7R 50V |
| CV016 | 226433 | 10140580 | CAPCC .47UF Z Y5V 16V |
| CV017 | 219199 | 20225890 | CAPCC .001UF J N750 50V |
| CV018 | 220593 | 14008500 | CAPCC .33UF Z Y5V 16V |
| CV019 | 219223 | 20227510 | CAPCC 220PF J N750 50V |
| CV020 | 219215 | 20230650 | CAPCC .1UF Z Y5V 25V |
| CV021 | 219238 | 20227160 | CAPCC 150PF J NPO 50V |
| CV022 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CV023 | 225548 | 20229030 | CAPCC 56PF J N150 50V |
| CV024 | 190552 | 70427610 | CAPCC .1UF K X7R 50V |
| CV025 | 212434 | 20229450 | CAPCC .01UF K X7R 50V |
| CV026 | 220593 | 14008500 | CAPCC .33UF Z Y5V 16V |
| CV027 | 225545 | 15070880 | CAPCC 750PF J NPO 50V |
| CV028 | 212290 | 20350690 | CAPCC 8PF C NPO 50V |
| CV029 | 207854 | 15002850 | CAP LYTC .47UF M 50V |
| CV030 | 226433 | 10140580 | CAPCC .47UF Z Y5V 16V |
| CV031 | 211522 | 10140570 | CAPCC 1UF Z Y5V 16V |
| CV032 | 152242 | 15002740 | CAP LYTC 2.2UF M 50V |
| CV033 | 193588 | 15002190 | CAP LYTC 10UF M 16V |
| CV034 | 152242 | 15002740 | CAP LYTC 2.2UF M 50V |
| CV035 | 193588 | 15002190 | CAP LYTC 10UF M 16V |
| CV036 | 219215 | 20230650 | CAPCC .1UF Z Y5V 25V |
| CV037 | 230979 | 15001920 | CAP LYTC 100UF M 16V |
| CV038 | 216078 | 15049370 | CAPCC 1UF Z Y5V 16V |
| CV039 | 182297 | 13039370 | CAP LYTC 100UF M 6.3V |
| CV040 | 216061 | 20230480 | CAPCC 27PF J N750 50V |
| CV041 | 219215 | 20230650 | CAPCC .1UF Z Y5V 25V |
| CV042 | 219221 | 15049350 | CAPCC .47UF Z Y5V 16V |
| CV043 | 219200 | 20225180 | CAPCC 18PF J NPO 50V |
| CV044 | 219215 | 20230650 | CAPCC .1UF Z Y5V 25V |
| CV045 | 174642 | 10143660 | CAP LYTC 10UF M 6.3V |
| CV046 | 212434 | 20229450 | CAPCC .01UF K X7R 5V |
| CV047 | 216078 | 15049370 | CAPCC 1UF Z Y5V 16V |
| CV049 | 211522 | 10140570 | CAPCC 1UF Z Y5V 16V |
| CV050 | 208429 | 13076760 | CAP LYTC 47UF M 16V |
| CV051 | 219200 | 20225180 | CAPCC 18PF J NPO 50V |
| CV052 | 212434 | 20229450 | CAPCC .01UF K X7R 50V |
| CV054 | 206246 | 15041170 | CAPCC .1UF K X7R 25V |
| CV055 | 211528 | 20226210 | CAPCC 4700PF K X7R 50V |
| CV056 | 212434 | 20229450 | CAPCC .01UF K X7R 50V |
| CV060 | 219238 | 20227160 | CAPCC 150PF J NPO 50V |
| CV070 | 208429 | 13076760 | CAP LYTC 47UF M 16V |
| CV071 | 219215 | 20230650 | CAPCC .1UF Z Y5V 25V |
| CV072 | 225485 | 20350750 | CAPCC 560PF J NPO 50V |
| CV073 | 225488 | 20226990 | CAPCC 3900PF K NPO 50V |
| CV074 | 152239 | 13091760 | CAP LYTC 3.3UF M 50V |
| CV076 | 194271 | 10122870 | CAP LYTC 1UF M 50V |
| CV138 | 219208 | 20227710 | CAPCC 100PF J NPO 50V |
| CV140 | 219206 | 20198410 | CAPCC 2200PF K X7R 50V |
| CX001 | 216021 | 20226560 | CAPCC 47PF J NPO 50V |
| CX002 | 221521 | 14035530 | CAPCC .022UF K Y5R 25V |
| CX004 | 230979 | 15001920 | CAP LYTC 100UF M 16V |
| CX102 | 221521 | 14035530 | CAPCC .022UF K Y5R 25V |
| CZ016 | 161997 | 40432840 | CAPCC .1UF Z Y5V 50V |
| CZ024 | 161997 | 40432840 | CAPCC .1UF Z Y5V 50V |
| CZ025 | 194557 | 13082060 | CAP LYTC 10UF M 50V |
| CZ047 | 226433 | 10140580 | CAPCC .47UF Z Y5V 16V |
| DT105 | 198597 | 16008160 | DIODE |
| DT106 | 198597 | 16008160 | DIODE |
| DT107 | 224938 | 80443510 | DIODE ZENER 6.8V 1.3W |
| DT108 | 206077 | 16012450 | DIODE |
| DT109 | 206077 | 16012450 | DIODE |
| DT140 | 164717 | 70436540 | DIODE |
| DT200 | 198597 | 16008160 | DIODE |
| DT201 | 198597 | 16008160 | DIODE |
| DT202 | 198597 | 16008160 | DIODE |
| DT203 | 219241 | 16030280 | DIODE ZENER 4.7V .5W |
| DT204 | 219247 | 16012470 | DIODE |
| DT205 | 206077 | 16012450 | DIODE |
| DX100 | 206077 | 16012450 | DIODE |
| DX101 | 206077 | 16012450 | DIODE |
| DX102 | 206077 | 16012450 | DIODE |
| DX103 | 206077 | 16012450 | DIODE |
| DZ005 | 219249 | 16030290 | DIODE ZENER 5.1V .5W |
| DZ006 | 219247 | 16012470 | DIODE |
| DZ025 | 224939 | 16030430 | DIODE ZENER 9.1V .5W |
| DZ026 | 219247 | 16012470 | DIODE |
| GT100 | 206184 | 10627200 | DIODE REMOTE RCVR |
| GT101 | 225506 | 10137670 | DIODE SUPPLY REEL SENSE |
| GT102 | 225506 | 10137670 | DIODE TAKE-UP REEL SENSE |
| GT103 | 207701 | 30744200 | TRANSISTOR TAPE START SENSOR |
| GT104 | 207701 | 30744200 | TRANSISTOR TAPE END SENSOR |
| GT105 | 226434 | 10150570 | TRANSISTOR OPTICAL SENSOR |
| IS001 | 224948 | 10122010 | IC AUDIO HEAD SWITCH |
| IT001 | 233726 | 20569710 | IC MICROPROCESSOR |
| IT002 | 224950 | 10149630 | IC MOTOR DRIVER |
| IT003 | 224951 | 10030300 | IC EEPROM |
| IT004 | 224952 | 20375060 | IC SYSTEM RESET |
| IV001 | 224953 | 20391730 | IC Y/C PROCESSOR |
| IV040 | 224954 | 10119420 | IC CCD DELAY |
| IV070 | 224955 | 20374620 | IC SYNC SEPARATOR |
| IX101 | 225493 | 10292210 | IC INPUT SELECT |
| JS001 | 207711 | 20283120 | RES CMF 1/8W 5% OR |
| JS003 | 207711 | 20283120 | RES CMF 1/8W 5% OR |
| JS005 | 206077 | 16012450 | DIODE |
| JS008 | 207711 | 20283120 | RES CMF 1/8W 5% OR |
| JS009 | 207711 | 20283120 | RES CMF 1/8W 5% OR |
| JS016 | 207711 | 20283120 | RES CMF 1/8W 5% OR |
| JS022 | 207711 | 20283120 | RES CMF 1/8W 5% OR |
| JS023 | 200473 | 20283320 | RES CMF 1/10W 5% OR |
| JS026 | 207711 | 20283120 | RES CMF 1/8W 5% OR |
| JS027 | 200473 | 20283320 | RES CMF 1/10W 5% OR |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| JS042 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JS044 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT001 | 175324 | 20469450 | RES CF 1/4W 5% 220R |
| JT004 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT006 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT010 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT018 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT025 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT026 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT032 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT037 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT040 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT041 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT044 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT071 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT072 | 211615 | 20221160 | RES CMF 1/8W 5% 68R |
| JT074 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT077 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT081 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT102 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT103 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT104 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT107 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT108 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT109 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT110 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT111 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT112 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT113 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT114 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT116 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT117 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT118 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT120 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT125 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT128 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT129 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT140 | 205408 | 80440510 | RES CMF 1/10W 2% .0R |
| JT141 | 205408 | 80440510 | RES CMF 1/10W 2% .0R |
| JT180 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT182 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT183 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT185 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT186 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT203 | 205408 | 80440510 | RES CMF 1/10W 2% .0R |
| JT206 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT207 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT208 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT209 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT220 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JT401 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT403 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT405 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT406 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT407 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT413 | 231900 | 20364830 | FILTER EMI |
| JT414 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT415 | 212399 | 20224570 | RES CMF 1/10W 5% 100R |
| JT416 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT421 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT426 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT427 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT429 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT430 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT442 | 231900 | 20364830 | FILTER EMI |
| JT445 | 231900 | 20364830 | FILTER EMI |
| JT446 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT447 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT452 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT453 | 231900 | 20364830 | FILTER EMI |
| JT454 | 231900 | 20364830 | FILTER EMI |
| JT455 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT456 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JT459 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT464 | 231900 | 20364830 | FILTER EMI |
| JT480 | 231900 | 20364830 | FILTER EMI |
| JT483 | 211623 | 20224230 | RES CMF 1/10W 5% 220R |
| JT484 | 211623 | 20224230 | RES CMF 1/10W 5% 220R |
| JT486 | 231900 | 20364830 | FILTER EMI |
| JT487 | 231900 | 20364830 | FILTER EMI |
| JT492 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| JT495 | 211395 | 20223740 | RES CMF 1/10W 5% 2.2K |
| JT496 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JT497 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| JV016 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JV028 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JV045 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JV070 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JV130 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JV131 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JV136 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JV139 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JV140 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JV141 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JV160 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JX002 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JX004 | 175324 | 20469450 | RES CF 1/4W 5% 220R |
| JX005 | 175324 | 20469450 | RES CF 1/4W 5% 220R |
| JX006 | 175324 | 20469450 | RES CF 1/4W 5% 220R |
| JX011 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| JX013 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JX015 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JX021 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JX023 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JX101 | 211623 | 20224230 | RES CMF 1/10W 5% 220R |
| JX102 | 211623 | 20224230 | RES CMF 1/10W 5% 220R |
| JZ011 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JZ015 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| JZ050 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| LS019 | 206179 | 20351960 | COIL .00812UH |
| LS020 | 231099 | 13055490 | COIL .0015UH |
| LS030 | 224993 | 20241810 | COIL |
| LT028 | 232264 | 20389930 | COIL 100UH |
| LT029 | 232264 | 20389930 | COIL 100UH |
| LT030 | 232264 | 20389930 | COIL 100UH |
| LT069 | 206173 | 13087570 | COIL 47UH |
| LT101 | 206369 | 13052840 | COIL 2.2UH |
| LT102 | 219306 | 13053010 | COIL 22UH |
| LT103 | 206369 | 13052840 | COIL 2.2UH |
| LT104 | 224997 | 15040010 | COIL 2.7UH |
| LV003 | 211583 | 15040230 | COIL 56UH |
| LV004 | 211585 | 13020650 | COIL 68UH |
| LV005 | 206173 | 13087570 | COIL 47UH |
| LV008 | 211585 | 13020650 | COIL 68UH |
| LV009 | 224999 | 15040380 | COIL 82UH |
| LV023 | 206174 | 13020590 | COIL 56UH |
| LV036 | 219293 | 13054620 | COIL 33UH |
| LV039 | 206173 | 13087570 | COIL 47UH |
| LV040 | 206173 | 13087570 | COIL 47UH |
| LV051 | 225500 | 20242260 | COIL 10UH |
| LV060 | 206171 | 13048540 | COIL 1UH |
| PS034 | 227261 | 42049100 | RES CONTROL |
| QT100 | 211606 | 48079600 | FILTER QUARTZ 32.768KHZ |
| QT101 | 225497 | 20546390 | FILTER QUARTZ 16MHZ |
| QT102 | 209725 | 20546450 | FILTER QUARTZ 14.318MHZ |
| QV014 | 227496 | 20546430 | FILTER QUARTZ 3.579545MHZ |
| RN001 | 198707 | 15006730 | RES CF 1/4W 5% 1K |
| RN022 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| RN023 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| RS002 | 219339 | 20222250 | RES CMF 1/8W 5% 10R |
| RS003 | 211663 | 20222680 | RES CMF 1/8W 5% 22K |
| RS004 | 212404 | 20224760 | RES CMF 1/10W 5% 330R |
| RS006 | 212454 | 20223220 | RES CMF 1/10W 5% 330K |
| RS008 | 212393 | 20224010 | RES CMF 1/10W 5% 12K |
| RS010 | 212448 | 20223990 | RES CMF 1/10W 5% 8.2K |
| RS011 | 225513 | 20223840 | RES CMF 1/10W 5% 9.1K |
| RS012 | 212448 | 20223990 | RES CMF 1/10W 5% 8.2K |
| RS013 | 212388 | 20223190 | RES CMF 1/10W 5% 56K |
| RS014 | 225514 | 20224620 | RES CMF 1/10W 10% 2.2M |
| RS015 | 212437 | 20224600 | RES CMF 1/10W 5% 6.8K |
| RS016 | 212437 | 20224600 | RES CMF 1/10W 5% 6.8K |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| RS017 | 225515 | 20222980 | RES CMF 1/8W 5% 1.1K |
| RS018 | 212400 | 20223760 | RES CMF 1/10W 5% 22K |
| RS019 | 212436 | 20224260 | RES CMF 1/10W 5% 47K |
| RS020 | 212444 | 20223920 | RES CMF 1/10W 5% 3.6K |
| RS021 | 198719 | 15007830 | RES CF 1/4W 5% 33K |
| RS022 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| RS023 | 211638 | 20221180 | RES CMF 1/8W 5% 220R |
| RS024 | 212453 | 20221240 | RES CMF 1/8W 5% 10K |
| RS025 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RS026 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RS027 | 212440 | 20224960 | RES CMF 1/10W 5% 680R |
| RS028 | 211623 | 20224230 | RES CMF 1/10W 5% 220R |
| RS029 | 212436 | 20224260 | RES CMF 1/10W 5% 47K |
| RS030 | 226438 | 20223720 | RES CMF 1/10W 5% 4.7R |
| RS031 | 212406 | 20224590 | RES CMF 1/10W 5% 5.6K |
| RS033 | 212453 | 20221240 | RES CMF 1/8W 5% 10K |
| RS034 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| RS036 | 829310 | 15006130 | RES CF 1/4W 5% 10K |
| RS038 | 219325 | 20222660 | RES CMF 1/8W 5% 6.8K |
| RS039 | 212382 | 20224240 | RES CMF 1/10W 5% 10K |
| RS040 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RS041 | 220605 | 15009660 * | RES CFF .3W 5% 18R |
| RS042 | 212449 | 20221950 | RES CMF 1/8W 5% 4.7K |
| RS043 | 211627 | 20221230 | RES CMF 1/8W 5% 5.6K |
| RS044 | 212449 | 20221950 | RES CMF 1/8W 5% 4.7K |
| RS045 | 212449 | 20221950 | RES CMF 1/8W 5% 4.7K |
| RT016 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RT017 | 219335 | 20222510 | RES CMF 1/8W 5% 820R |
| RT018 | 211395 | 20223740 | RES CMF 1/10W 5% 2.2K |
| RT020 | 225516 | 20221830 | RES CMF 1/8W 5% 39R |
| RT021 | 212406 | 20224590 | RES CMF 1/10W 5% 5.6K |
| RT028 | 212442 | 20222490 | RES CMF 1/8W 5% 100R |
| RT029 | 212442 | 20222490 | RES CMF 1/8W 5% 100R |
| RT030 | 212442 | 20222490 | RES CMF 1/8W 5% 100R |
| RT100 | 211615 | 20221160 | RES CMF 1/8W 5% 68R |
| RT101 | 211395 | 20223740 | RES CMF 1/10W 5% 2.2K |
| RT102 | 211395 | 20223740 | RES CMF 1/10W 5% 2.2K |
| RT103 | 206272 | 30942940 | RES CMF 1/8W 5% 100R |
| RT105 | 212388 | 20223190 | RES CMF 1/10W 5% 56K |
| RT106 | 212401 | 20224580 | RES CMF 1/10W 5% 1.8K |
| RT107 | 219329 | 20221210 | RES CMF 1/8W 5% 1.8K |
| RT108 | 212388 | 20223190 | RES CMF 1/10W 5% 56K |
| RT109 | 212392 | 20224780 | RES CMF 1/10W 5% 470R |
| RT110 | 211617 | 20223230 | RES CMF 1/10W 5% 680K |
| RT111 | 225517 | 20223790 | RES CMF 1/10W 10% 4.7M |
| RT112 | 212383 | 20225020 | RES CMF 1/10W 5% 220K |
| RT113 | 225517 | 20223790 | RES CMF 1/10W 10% 4.7M |
| RT115 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RT116 | 212399 | 20224570 | RES CMF 1/10W 5% 100R |
| RT117 | 206259 | 80439650 | RES CMF 1/8W 5% 470R |
| RT118 | 211395 | 20223740 | RES CMF 1/10W 5% 2.2K |
| RT124 | 211657 | 20221170 | RES CMF 1/8W 5% 150R |
| RT125 | 219340 | 20222850 | RES CMF 1/8W 5% 180R |
| RT126 | 211627 | 20221230 | RES CMF 1/8W 5% 5.6K |
| RT127 | 211627 | 20221230 | RES CMF 1/8W 5% 5.6K |
| RT128 | 212447 | 20223770 | RES CMF 1/10W 5% 27K |
| RT129 | 175054 | 60441580 | RES CF 1/4W 5% 22K |
| RT130 | 212453 | 20221240 | RES CMF 1/8W 5% 10K |
| RT131 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RT132 | 212449 | 20221950 | RES CMF 1/8W 5% 4.7K |
| RT134 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RT135 | 226440 | 15022570 | RES MFF .4W 10% .22R |
| RT136 | 181234 | 60442740 * | RES MF 3W 5% 18R |
| RT137 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RT138 | 212449 | 20221950 | RES CMF 1/8W 5% 4.7K |
| RT140 | 201144 | 50886670 | RES CMF 1/10W 5% 1M |
| RT141 | 201144 | 50886670 | RES CMF 1/10W 5% 1M |
| RT142 | 212382 | 20224240 | RES CMF 1/10W 5% 10K |
| RT144 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RT145 | 212453 | 20221240 | RES CMF 1/8W 5% 10K |
| RT146 | 206381 | 60443740 | RES CMF 1/8W 5% 100K |
| RT147 | 162004 | 30943030 | RES CMF 1/8W 5% 56K |
| RT148 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RT149 | 212401 | 20224580 | RES CMF 1/10W 5% 1.8K |
| RT150 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RT151 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RT152 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RT153 | 198707 | 15006730 | RES CF 1/4W 5% 1K |
| RT159 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RT160 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RT167 | 212382 | 20224240 | RES CMF 1/10W 5% 10K |

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| RT168 | 212436 | 20224260 | RES CMF 1/10W 5% 47K |
| RT169 | 211652 | 20224490 | RES CMF 1/10W 5% 30K |
| RT170 | 211638 | 20221180 | RES CMF 1/8W 5% 220R |
| RT171 | 219340 | 20222850 | RES CMF 1/8W 5% 180R |
| RT200 | 211657 | 20221170 | RES CMF 1/8W 5% 150R |
| RT201 | 225519 | 20221840 | RES CMF 1/8W 5% 82R |
| RT203 | 211638 | 20221180 | RES CMF 1/8W 5% 220R |
| RT204 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RT212 | 225512 | 11073140 | RES CMF 1/8W 1% 1.4K |
| RT213 | 226523 | 20224880 | RES CMF 1/10W 1% 6.81K |
| RT214 | 212399 | 20224570 | RES CMF 1/10W 5% 100R |
| RT300 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RV002 | 219344 | 20221630 | RES CMF 1/8W 5% 680R |
| RV003 | 211610 | 20224330 | RES CMF 1/10W 5% 1.1K |
| RV004 | 211611 | 20224970 | RES CMF 1/10W 5% 820R |
| RV005 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RV006 | 212385 | 20224130 | RES CMF 1/10W 5% 1.5K |
| RV007 | 211658 | 20222640 | RES CMF 1/8W 5% 1.5K |
| RV008 | 212440 | 20224960 | RES CMF 1/10W 5% 680R |
| RV009 | 225521 | 20223820 | RES CMF 1/10W 5% 430R |
| RV010 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RV012 | 212440 | 20224960 | RES CMF 1/10W 5% 680R |
| RV013 | 212384 | 20224810 | RES CMF 1/10W 5% 1.2K |
| RV014 | 212385 | 20224130 | RES CMF 1/10W 5% 1.5K |
| RV016 | 212399 | 20224570 | RES CMF 1/10W 5% 100R |
| RV017 | 212436 | 20224260 | RES CMF 1/10W 5% 47K |
| RV023 | 200473 | 20283320 | RES CMF 1/10W 5% 0R |
| RV025 | 212389 | 20224750 | RES CMF 1/10W 5% 150R |
| RV027 | 829347 | 15008410 | RES CF 1/4W 5% 47K |
| RV030 | 192100 | 20471950 | RES CMF 1/10W 5% 1K |
| RV031 | 192082 | 40438290 | RES CMF 1/10W 5% 1.5K |
| RV032 | 205354 | 70434250 | RES CMF 1/10W 5% 15K |
| RV033 | 205349 | 11066460 | RES CMF 1/10W 5% 8.2K |
| RV034 | 202586 | 50886570 | RES CMF 1/10W 5% 1.1K |
| RV035 | 197472 | 50886550 | RES CMF 1/10W 5% 560R |
| RV040 | 211395 | 20223740 | RES CMF 1/10W 5% 2.2K |
| RV041 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RV042 | 225515 | 20222980 | RES CMF 1/8W 5% 1.1K |
| RV043 | 211608 | 20225120 | RES CMF 1/10W 5% 620R |
| RV044 | 212445 | 20224440 | RES CMF 1/10W 5% 270R |
| RV045 | 212408 | 20221930 | RES CMF 1/8W 5% 1K |
| RV046 | 212391 | 20223980 | RES CMF 1/10W 5% 1K |
| RV047 | 211608 | 20225120 | RES CMF 1/10W 5% 620R |
| RV048 | 211644 | 20223360 | RES CMF 1/10W 5% 2K |
| RV049 | 197903 | 20471960 | RES CMF 1/10W 5% 1.8K |
| RV052 | 212399 | 20224570 | RES CMF 1/10W 5% 100R |
| RV053 | 201144 | 50886670 | RES CMF 1/10W 5% 1M |
| RV054 | 219335 | 20222510 | RES CMF 1/8W 5% 820R |
| RV055 | 192100 | 20471950 | RES CMF 1/10W 5% 1K |
| RV056 | 212456 | 20222280 | RES CMF 1/8W 5% 3.3K |
| RV058 | 212440 | 20224960 | RES CMF 1/10W 5% 680R |
| RV059 | 211611 | 20224970 | RES CMF 1/10W 5% 820R |
| RV060 | 212408 | 20221930 | RES CMF 1/8W 5% 1K |
| RV061 | 225517 | 20223790 | RES CMF 1/10W 10% 4.7M |
| RV068 | 212453 | 20221240 | RES CMF 1/8W 5% 10K |
| RV069 | 212398 | 20224140 | RES CMF 1/10W 5% 4.7K |
| RV070 | 211395 | 20223740 | RES CMF 1/10W 5% 2.2K |
| RV071 | 212449 | 20221950 | RES CMF 1/8W 5% 4.7K |
| RV072 | 226443 | 20222580 | RES CMF 1/8W 2% 100K |
| RV073 | 212386 | 20224820 | RES CMF 1/10W 5% 82K |
| RV074 | 212408 | 20221930 | RES CMF 1/8W 5% 1K |
| RV075 | 212454 | 20223220 | RES CMF 1/10W 5% 330K |
| RV078 | 215988 | 20221220 | RES CMF 1/8W 5% 2.2K |
| RV079 | 215988 | 20221220 | RES CMF 1/8W 5% 2.2K |
| RV080 | 212408 | 20221930 | RES CMF 1/8W 5% 1K |
| RV130 | 829310 | 15006130 | RES CF 1/4W 5% 10K |
| RV135 | 212400 | 20223760 | RES CMF 1/10W 5% 22K |
| RV138 | 212448 | 20223990 | RES CMF 1/10W 5% 8.2K |
| RV140 | 211656 | 20224460 | RES CMF 1/10W 5% 100K |
| RX002 | 211612 | 20224790 | RES CMF 1/10W 5% 560R |
| RX004 | 175325 | 50882950 | RES CF 1/4W 5% 100R |
| RX011 | 206381 | 60443740 | RES CMF 1/8W 5% 100K |
| RX020 | 219343 | 20221370 | RES CMF 1/8W 5% 75R |
| RX100 | 211623 | 20224230 | RES CMF 1/10W 5% 220R |
| RX101 | 211623 | 20224230 | RES CMF 1/10W 5% 220R |
| RX104 | 211607 | 20221970 | RES CMF 1/8W 5% 100K |
| RX105 | 212400 | 20223760 | RES CMF 1/10W 5% 22K |
| RZ001 | 211395 | 20223740 | RES CMF 1/10W 5% 2.2K |
| RZ002 | 211395 | 20223740 | RES CMF 1/10W 5% 2.2K |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| RZ005 | 209918 | 15009730 * | RES CFF .3W 5% 1R |
| RZ007 | 219335 | 20222510 | RES CMF 1/8W 5% 820R |
| RZ008 | 219335 | 20222510 | RES CMF 1/8W 5% 820R |
| RZ009 | 219335 | 20222510 | RES CMF 1/8W 5% 820R |
| RZ010 | 219335 | 20222510 | RES CMF 1/8W 5% 820R |
| RZ016 | 207711 | 20283120 | RES CMF 1/8W 5% 0R |
| RZ017 | 212396 | 20224990 | RES CMF 1/10W 5% 33K |
| RZ023 | 212400 | 20223760 | RES CMF 1/10W 5% 22K |
| RZ024 | 212400 | 20223760 | RES CMF 1/10W 5% 22K |
| RZ026 | 209918 | 15009730 * | RES CFF 3W 5% 1R |
| RZ027 | 212382 | 20224240 | RES CMF 1/10W 5% 10K |
| RZ028 | 212382 | 20224240 | RES CMF 1/10W 5% 10K |
| RZ029 | 212382 | 20224240 | RES CMF 1/10W 5% 10K |
| RZ047 | 198728 | 15006080 | RES CF 1/4W 5% 100K |
| ST002 | 225016 | 10137610 | SWITCH INPUT |
| TS030 | 225021 | 16005670 | TRANSISTOR AMP |
| TS037 | 219349 | 16006290 | TRANSISTOR AMP |
| TS039 | 219349 | 16006290 | TRANSISTOR BUFFER |
| TS040 | 206087 | 16007050 | TRANSISTOR SWITCH |
| TT100 | 219349 | 16006290 | TRANSISTOR SWITCH |
| TT101 | 219352 | 16006300 | TRANSISTOR VOLT BIAS |
| TT102 | 219348 | 16006330 | TRANSISTOR AMP |
| TT103 | 225524 | 16006720 | TRANSISTOR DIFF REGUL |
| TT104 | 219352 | 16006300 | TRANSISTOR REGULATOR |
| TT105 | 219352 | 16006300 | TRANSISTOR REGULATOR |
| TT106 | 206119 | 16007080 | TRANSISTOR CAM B SW |
| TT107 | 206119 | 16007080 | TRANSISTOR CAM A SW |
| TT140 | 206122 | 16005610 | TRANSISTOR MTR VOLTAGE |
| TT200 | 230763 | 16000560 | TRANSISTOR REGULATOR |
| TV003 | 206122 | 16005610 | TRANSISTOR BUFFER |
| TV004 | 206122 | 16005610 | TRANSISTOR BUFFER |
| TV005 | 206126 | 16005510 | TRANSISTOR BUFFER |
| TV030 | 206122 | 16005610 | TRANSISTOR BUFFER |
| TV031 | 206122 | 16005610 | TRANSISTOR AMP |
| TV041 | 206122 | 16005610 | TRANSISTOR AMP |
| TV044 | 206122 | 16005610 | TRANSISTOR AMP |
| TV045 | 206126 | 16005510 | TRANSISTOR REC AMP |
| TV049 | 206122 | 16005610 | TRANSISTOR BUFFER |
| TV051 | 206122 | 16005610 | TRANSISTOR BUFFER |
| TV055 | 206126 | 16005510 | TRANSISTOR AMP |
| TV072 | 219349 | 16006290 | TRANSISTOR AMP |
| TV073 | 219349 | 16006290 | TRANSISTOR BUFFER |
| TV130 | 219349 | 16006290 | TRANSISTOR SWITCH |
| TX002 | 219352 | 16006300 | TRANSISTOR BUFFER |
| TZ002 | 178650 | 16000220 | TRANSISTOR 5V REG |
| TZ012 | 195826 | 16007000 | TRANSISTOR SWITCH |
| TZ018 | 219348 | 16006330 | TRANSISTOR VOLT BIAS |
| TZ030 | 178650 | 16000220 | TRANSISTOR 9V REG |

## CHAN/VOL KEYBOARD ASSEMBLY

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| | | | CIRCUIT COMPLETE T13060,T13065, T13070,T19060 (SEE #0213) |
| SK13 | 232293 | 20556870 | SWITCH CHAN DN |
| SK14 | 232293 | 20556870 | SWITCH VOL DN |
| SK15 | 232293 | 20556870 | SWITCH CHAN UP |
| SK16 | 232293 | 20556870 | SWITCH VOL UP |
| WK04 | 232573 | 10161320 | CONNECTOR 4 PIN |

## FRONT PANEL ASY

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| | | | CIRCUIT VCR KEYBOARD 13TVR60,13TVR70, 19TVR60 (SEE #0210M) |
| | | | CIRCUIT KEYBD/DISPLAY T13060,T13065, T13070,T19060 (SEE #0210M) |
| BJ04 | 211595 | 67137910 | CONNECTOR 4 PIN |
| BK04 | 232570 | 10205520 | CONNECTOR 4 PIN |
| BK08 | 211594 | 67138110 | CONNECTOR 8 PIN |
| CJ33 | 211522 | 10140570 | CAPCC 1UF Z Y5V 16V |
| CK04 | 225482 | 40432740 | CAPCC 560PF J N750 50V |
| CK33 | 182466 | 90578090 | CAP LYTC 330UF M 6.3V |
| CL91 | 211522 | 10140570 | CAPCC 1UF Z Y5V 16V |
| DK01 | 206077 | 16012450 | DIODE |
| DK02 | 206077 | 16012450 | DIODE |
| DK03 | 206077 | 16012450 | DIODE |
| DK04 | 206077 | 16012450 | DIODE |
| DK05 | 206077 | 16012450 | DIODE |
| DK06 | 206077 | 16012450 | DIODE |
| GK01 | 232255 | 20296210 | DIODE LED RECORD |
| GK02 | 232256 | 16010100 | DIODE LED POWER |
| GK03 | 232256 | 16010100 | DIODE LED REPEAT |
| GK04 | 232256 | 16010100 | DIODE LED WAKE TIMER |
| GK05 | 232256 | 16010100 | DIODE LED TIME REC |
| IK01 | 211569 | 20334930 | IC LED PROCESSING |
| IK02 | 226767 | 10291520 | IC KEYBD PROCESSING |
| JK01 | 181161 | 50885530 | RES CMF 1/8W 10% .05R |
| JK02 | 181161 | 50885530 | RES CMF 1/8W 10% .05R |
| JK03 | 181161 | 50885530 | RES CMF 1/8W 10% .05R |
| JK04 | 181161 | 50885530 | RES CMF 1/8W 10% .05R |
| JK05 | 181161 | 50885530 | RES CMF 1/8W 10% .05R |
| PK01 | 225494 | 20483820 | JACK VIDEO IN |
| PK02 | 225495 | 30930090 | JACK AUDIO IN |
| RJ01 | 220616 | 30942930 | RES CMF 1/8W 5% 75R |
| RJ04 | 179378 | 90573610 | RES CMF 1/8W 5% 47K |
| RJ90 | 181485 | 90573550 | RES CMF 1/8W 5% 120R |
| RJ91 | 206272 | 30942940 | RES CMF 1/8W 5% 100R |
| RK01 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK02 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK03 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK04 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK05 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK06 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK07 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK08 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK09 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK10 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK11 | 210243 | 50885660 | RES CMF 1/8W 5% 39K |
| RK12 | 206259 | 80439650 | RES CMF 1/8W 5% 470R |
| RK13 | 206259 | 80439650 | RES CMF 1/8W 5% 470R |
| RK14 | 206259 | 80439650 | RES CMF 1/8W 5% 470R |
| RK15 | 206259 | 80439650 | RES CMF 1/8W 5% 470R |
| RK16 | 206259 | 80439650 | RES CMF 1/8W 5% 470R |
| RK17 | 206261 | 60443710 | RES CMF 1/8W 5% 10K |
| RK18 | 206261 | 60443710 | RES CMF 1/8W 5% 10K |
| RK91 | 206275 | 30942960 | RES CMF 1/8W 5% 220R |
| RL91 | 206380 | 11064770 | RES CMF 1/8W 5% 4.7K |
| SK01 | 232293 | 20556870 | SWITCH POWER |
| SK02 | 232293 | 20556870 | SWITCH STOP/EJECT |
| SK03 | 232293 | 20556870 | SWITCH REWIND |
| SK04 | 232293 | 20556870 | SWITCH CHAN DN |
| SK05 | 232293 | 20556870 | SWITCH CHAN UP |
| SK06 | 232293 | 20556870 | SWITCH PICTURE |
| SK07 | 232293 | 20556870 | SWITCH RECORD |
| SK08 | 232293 | 20556870 | SWITCH FASTFWD |
| SK09 | 232293 | 20556870 | SWITCH PLAY |
| SK10 | 232293 | 20556870 | SWITCH VOL DN |
| SK11 | 232293 | 20556870 | SWITCH VOL UP |
| TK01 | 219349 | 16006290 | TRANSISTOR LED DRIVER |
| TK02 | 219349 | 16006290 | TRANSISTOR LED DRIVER |
| TK03 | 219349 | 16006290 | TRANSISTOR LED DRIVER |
| TK04 | 219349 | 16006290 | TRANSISTOR LED DRIVER |
| TK05 | 219349 | 16006290 | TRANSISTOR LED DRIVER |
| ZK01 | 232294 | 20455180 | IC IR RECEIVER |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| | | | **TUNER ASY** |
| NZ001 | 232267 | 20315660 | TUNER COMPLETE-FE4310 |
| | 232302 | 2016102A | * CONNECTOR, ANTENNA |
| | 232303 | 2016313A | COVER, TUNER TOP W/LOGO |
| | 232304 | 2016315B | COVER, TUNER BOTTOM |
| | | | **MECHANICAL ASSEMBLY-VCR SECTION** |
| BP01 | 232786 | 2041285A | * CABLE, AC CORD (BLK) 13TVR60,19TVR60, T13060,T13065, T19060 |
| BP01 | 235517 | 20555200 | * CABLE, AC CORD (WHT) 13TVR70,T13070 |
| B410 | 226426 | 20187170 | BLOCK, LOADING ASY W/MOTOR |
| B424 | 224917 | 20187240 | MOTOR, LOADING |
| B432 | 226473 | 20187290 | SWITCH |
| B440 | 225326 | 20187330 | GEAR |
| B450 | 225327 | 20187320 | GEAR |
| B470 | 225328 | 20187440 | GEAR, TAKEUP LOADING |
| B490 | 225329 | 20187510 | SLIDER, LOADING |
| B500 | 207642 | 90372000 | RETAINER |
| B560 | 224918 | 20188690 | MOTOR, CAPSTAN |
| B570 | 207611 | 70145500 | SCREW, 2.6MMD X 6MM |
| B580 | 224919 | 20188720 | BELT |
| G001 | 229328 | 10297590 | HEADWHEEL |
| G010 | 225560 | 20188770 | PLATE |
| G020 | 224940 | 20341110 | SCREW, 2.6MMD X 5MM |
| G021 | 231095 | 20340960 | SCREW, 2.6MMD X 5MM |
| G030 | 226488 | 20188780 | PLATE |
| G040 | 231095 | 20340960 | SCREW, 2.6MMD X 5MM |
| G060 | 224942 | 20199230 | SCREW, |
| G100 | 212251 | 90541201 | SCREW, |
| G410 | 225330 | 20186490 | GUIDE |
| G420 | 225331 | 20186510 | GUIDE |
| G450 | 225332 | 20186630 | GUIDE, TAKEUP SLIDER |
| G480 | 226593 | 20296280 | HEAD, AC ASY |
| G502 | 225333 | 20186740 | BASE, AC ASY |
| G504 | 227490 | 20292990 | SPRING |
| G506 | | | NON-STOCKED PART |
| G510 | | | NON-STOCKED PART |
| G520 | 225334 | 20186760 | LEVER, GUIDE |
| G530 | 224943 | 20188740 | HEAD, FULL ERASE |
| G560 | 224944 | 20187020 | LEVER |
| G580 | 225335 | 20187120 | BRACKET |
| G590 | 225336 | 20187150 | SPRING |
| G680 | 226517 | 20188830 | CLEANER, HEAD |
| G690 | 224945 | 10162600 | BRUSH |
| G700 | 224946 | 20277060 | WASHER |
| K110 | 226444 | 20186110 | REEL, SUPPLY |
| K130 | 224956 | 20186210 | WASHER |
| K140 | 224957 | 20186220 | REEL, TAKEUP |
| K170 | 224956 | 20186210 | WASHER |
| K180 | 225337 | 20186280 | ARM, IDLER |
| K200 | 225338 | 20186460 | GEAR, PULLEY |
| K220 | 226446 | 20284190 | RETAINER |
| K222 | 226446 | 20211090 | WASHER |
| K223 | 227323 | 20242370 | POST |
| K226 | 231878 | 20244370 | SCREW, 2.6MMD X 6MM |
| K242 | 225339 | 20186810 | LEVER, TENSION |
| K252 | 225340 | 20186840 | BRAKE, BAND |
| K254 | 225341 | 20186860 | HOLDER, BAND |
| K260 | 231879 | 20392370 | SPRING |
| K270 | 225343 | 20186910 | HOOK, TENSION LEVER |
| K280 | 225344 | 20186920 | LEVER, HOOK |
| K290 | 225345 | 20186930 | LEVER, TENSION DRIVE |
| K320 | 224987 | 20187580 | LEVER |
| K330 | 225346 | 20187710 | BRAKE, MAIN |
| K340 | 225347 | 20187730 | BRAKE, TAKE-UP (MAIN) |
| K350 | 225325 | 20187740 | SPRING |

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| K360 | 225348 | 20187620 | LEVER, SUPPLY BRAKE |
| K370 | 225349 | 20187760 | SPRING |
| K380 | 225350 | 20187770 | BRAKE, TAKE-UP (SOFT) |
| K390 | 225351 | 20187910 | SPRING |
| K402 | 225352 | 20187640 | LEVER, DRIVE |
| K410 | 225353 | 20187920 | SLIDER, CAM |
| K420 | 225354 | 20187930 | SPRING |
| K430 | 225355 | 20187650 | LEVER, IDLER UP/DN |
| K440 | 225356 | 20187660 | LEVER, IDLE KICK |
| K450 | 225357 | 20187940 | LEVER, IDLE CENTER |
| K470 | 224988 | 20188190 | LEVER, CAM |
| K480 | 225358 | 20188080 | SLIDER, FL DRIVER |
| K490 | 225359 | 20188090 | TRAY, CASSETTE |
| K530 | 225360 | 20187540 | ARM, DRIVE |
| K550 | 225361 | 20188520 | GEAR, LEVER DRIVE |
| K562 | 225362 | 20188530 | LEVER, ARM BRAKE |
| K564 | 225363 | 20188540 | SPRING, ARM BRAKE |
| K570 | 225364 | 20188550 | BRACKET, TOP |
| K580 | 225365 | 10149540 | SCREW, 3MMD X 5MM |
| K590 | 224989 | 20188570 | LEVER, DOOR OPEN |
| MT001 | 232299 | 20367990 | STATOR |
| MT100 | 225005 | 20201780 | HOLDER, LED |
| MT103 | 231114 | 20195450 | HOLDER, START SENSOR |
| MT104 | 231115 | 20195440 | HOLDER, END SENSOR |
| NZ001 | | | SEE TUNER ASY |
| U501A | 231107 | 20341090 | SCREW |
| 0005M | 233703 | 20536120 | ● CIRCUIT, VCR MAIN 13TVR60,13TVR70, 19TVR60 |
| 0005M | 232568 | 20536150 | ● CIRCUIT ,VCR MAIN T13060GY,T13065, T13070,T19060 |
| 0010 | | | NON-STOCKED PART |
| 0030 | 232291 | 20211050 | SPRING, TUNER GROUND |
| 0056 | 224907 | 20176570 | SPRING |
| 0060 | | | NON-STOCKED PART |
| 0060M | 232305 | 20361220 | PANEL, BACK |
| 0080 | 209729 | 50109000 | SCREW, 4MMD X 12MM |
| 0080M | 212247 | 60166300 | SCREW, 3MMD X 6MM |
| 0100 | 226483 | 20199570 | STOPPER |
| 0120 | 224909 | 20273840 | SPRING |
| 0170 | 207610 | 60148000 | SCREW, 3MMD X 8MM |
| 0200 | 219178 | 20060090 | SCREW, 3MMD X 10MM |
| 0210M | 232292 | 20536050 | ● CIRCUIT KEYBD/DISPLAY 13TVR60,13TVR70, 19TVR60 |
| 0210M | 232569 | 20536060 | ● CIRCUIT KEYBD/DISPLAY T13060,T13065, T13070,T19060 |
| 0213 | 232572 | 20536070 | CIRCUIT CHAN/VOL KEYBD T13060,T13065, T13070,T19060 |
| 0260 | 232309 | 20361260 | COVER, BOTTOM |
| 0275 | 219176 | 20103580 | SCREW, 3MMD X 16MM |
| 0290 | 232310 | 20361250 | COVER, TOP |
| 0300 | 219178 | 20060090 | SCREW, 3MMD X 10MM |
| | | | **REMOTE TRANSMITTER** |
| | | | TRANSMITTER, COMPLETE (SEE INCLUDED ACCESS) |
| | | | BATTERY, 1.5V AAA (NOT STOCKED) |
| | 232540 | 20409520 | COVER, BATTERY CRK230A,B,CL |
| | 232784 | 2050791A | COVER, BATTERY CRK230AW |
| | 235441 | 20390390 | COVER, BATTERY CRK231B |

# REPLACEMENT PARTS (Continued)

(See Product Safety Note on first page of this parts list)

| SYMBOL NO. | STOCK NO. | DRAWING NO. | DESCRIPTION |
|---|---|---|---|
| | | | **SERVICING AIDS** |
| | 144386 | VFK0134 | ● ADAPTER, TORQUE GAUGE, USE W/GAUGE MODEL NO. 600ATG |
| | 146918 | VKF0180 | ● CHUCK, FOR 144396 GAUGE (MODEL 600ATG ONLY) |
| | 147002 | | ● DRIVER, HEX KEY 1.5MM |
| | 146917 | | ● DRIVER RF ADJ TOOL |
| | 144396 | VFK0133 | ● GAUGE, TORQUE W/ADAPTER |
| | 147001 | 7099001 | ● JIG, REEL TABLE HEIGHT |
| | 156391 | 7099111 | ● METER, BACK TENSION TEST TAPE |
| | 184949 | 7099279 | ● PLATE, HEIGHT REFERENCE |
| | 153829 | 7099059 | ● SCREWDRIVER, JEWELER 0.8MMD SHAFT |
| | 156504 | 7099108 | ● TAPE, MONOSCOPE/7KHZ (MONO) |
| | 192847 | 7099109 | ● TAPE, COLOR BARS/1KHZ (MONO) |
| | 156502 | 7099110 | ● TAPE, MULTIBURST/3KHZ (STEREO) |
| | 156501 | 7099108 | ● TAPE, KIT OF 3 (MONOSCOPE, COLOR BARS & MULTIBURST) |
| | 144297 | XWXV3D54 | ● WASHER 3.2MM ID .5MM THICK REEL HEIGHT ADJUST 10/PKG |
| | 152460 | XWXV3A6 | ● WASHER, 3.2MM ID .25MM THICK REEL HEIGHT ADJUST 5/PKG |
| | | | **SERVICING MATERIALS** |
| | 147347 | 7099011 | ● GREASE, VCR MECHANISM |
| | 199076 | | ● KIT, INCLUDING ALL LUBES & CLEANING MATERIALS |
| | 147468 | 7099012 | ● OIL, VCR MECHANISM |
| | 194359 | | ● TIP, USED WITH SOLDER CREAM APPLICATOR, 2/PKG |
| | 145871 | 3415 | ● WIPES, 5 X 8-1/2 INCH |
| | | | **INCLUDED ACCESSORIES** |
| | 193983 | 15045850 | * ADAPTER, 75-300 OHM (BLK) 13TVR60, 19TVR60,T13060, T13065,T19060 |
| | 232919 | 20555560 | * ADAPTOR, 75-300 OHM (WHT) 13TVR70,T13070 |
| | 220689 | 1070670A | ANTENNA, VHF/UHF (BLK) 13TVR60, 19TVR60,T13060, T13065,T19060 |
| | 232920 | 20552580 | ANTENNA, VHF/UHF (WHT) 13TVR70,T13070 |
| | | 2051108A | BOOK, INSTRUCTION 13TVR60 (ENG/SPAN) |
| | | 20563700 | BOOK, INSTRUCTION 13TVR60 (FRENCH) |
| | | 20511190 | BOOK, INSTRUCTION 13TVR70 |
| | | 2051108A | BOOK INSTRUCTION 19TVR60 (ENG/SPAN) |
| | | 20558850 | BOOK INSTRUCTION 19TVR60 (FRENCH) |
| | | 20511200 | BOOK, INSTRUCTION T13060 |
| | | 20652960 | BOOK, INSTRUCTION T13065 |
| | | 15155550 | BOOK, INSTRUCTION T13065 (FRENCH) |
| | | 20511210 | BOOK, INSTRUCTION T13065 (ENG/SPAN/FR) |
| | | 20511220 | BOOK, INSTRUCTION T13070 |
| | | 20650110 | BOOK, INSTRUCTION T13070 (FRENCH) |
| | | 20650130 | BOOK, INSTRUCTION T13070 (SPANISH) |
| | | 20511230 | BOOK, INSTRUCTION T19060 |
| CRK230A | 231536 | 20376370 | TRANSMITTER, COMPLETE (BLK)13TVR60,13TVR70, 19TVR60 (SEE NOTE @) |
| CRK230AW | 232347 | 20441990 | TRANSMITTER, COMPLETE (WHT) 13TVR70 (SEE NOTE @) |
| CRK230B | 221371 | 20501570 | TRANSMITTER, COMPLETE T13060 |
| CRK230CL | 235442 | 20572550 | TRANSMITTER, COMPLETE T13065,T19060 |
| CRK231B | 221374 | 20376390 | TRANSMITTER, REMOTE T13070 |